

Furniture & cabinetmaking

DESIGN • INSPIRATION • PROJECTS • TECHNIQUES • TESTS • NEWS • EXCELLENCE

A man with glasses is working on a wooden project in a workshop. He is using a hand plane to smooth a piece of wood. In the background, there are various tools and wood pieces.

**Restoration
workshop part 1**
Selecting an alternative
timber to rosewood

Ganging up on dovetails

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tool chest**

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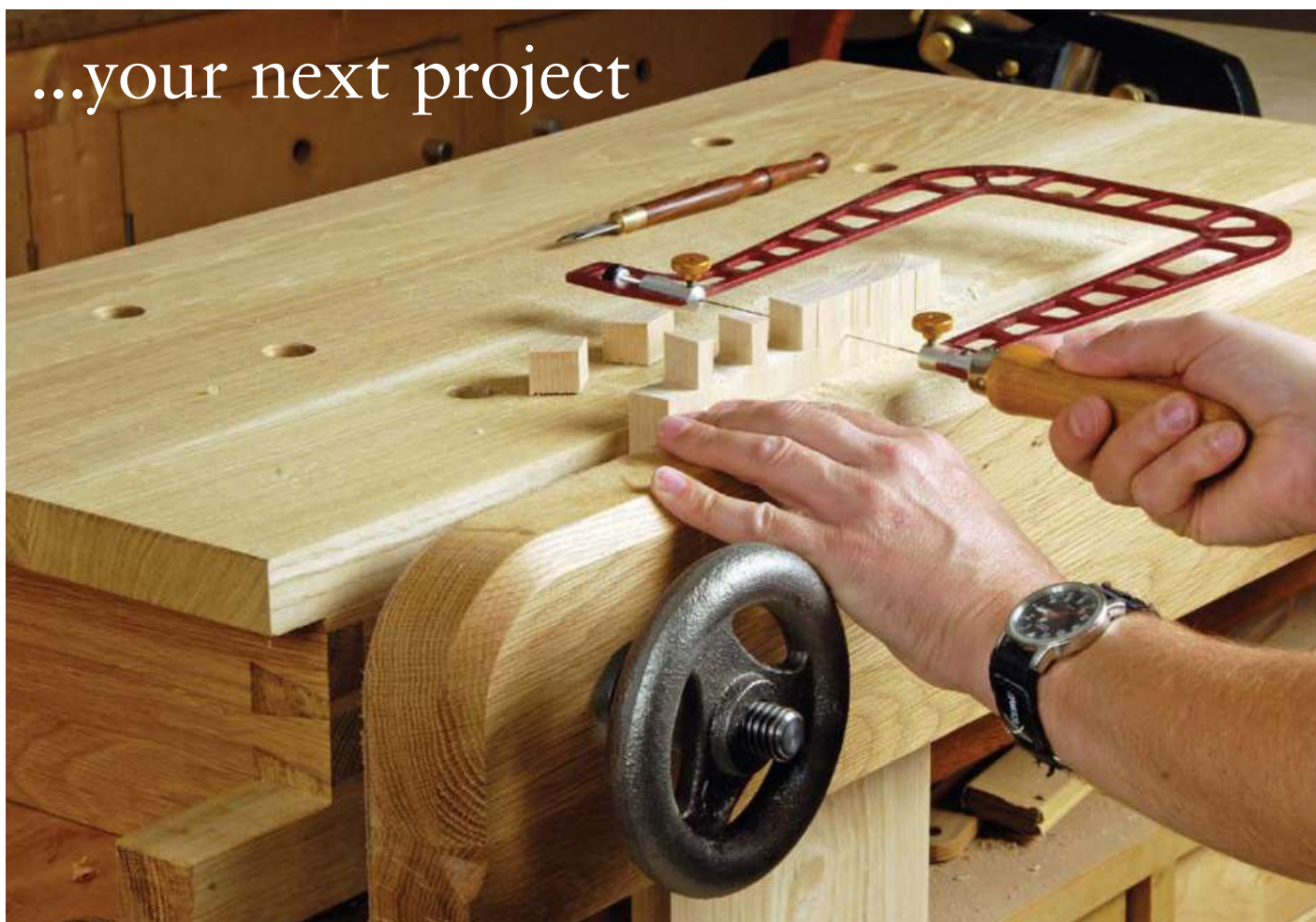
with dust bag quick change system





Welcome to...

...your next project



PHOTOGRAPH COURTESY OF GMC/DEREK JONES

The Moxon has become dovetail central this month

We all need a 'get-out-of-jail-free' card now and then. The *F&C* bench has been dovetail central this month, which is all good fun until you realise that your nicely dimensioned boards have all been marked up with the baselines in the wrong place. Stuff like this happens when you least have time for it and I guess there's a connection between the two somewhere. So what to do? Well, bearing in mind the boards are part of a tech feature this month demonstrating the pros and cons of gang cutting, it didn't seem right to leave them there, even though those that would end up on the inside of the box would never be seen. Time then to bring out the sander. After a quick blast over with an 80g belt the lines were beginning to fade away to almost nothing. A light spritz afterwards with water on both sides was sufficient to swell the fibres before a lighter going over with a finer belt and hey presto, the baselines were gone. It's great having a trick or two up your sleeve.

This was the month when anyone who

was anyone in woodworking descended on Cressing Temple Barns in Essex for the European Woodworking Show. Whereas some shows have a focus on one or two disciplines the EWS celebrates the whole range of craft skills with a passion. See our write-up on page 4 for the full story.

We've chosen to feature a couple of projects this month with a definite slant on construction techniques. Charles Mak's coopered lid box – page 60 – was designed with a very specific need. Similarly Tony Konovaloff's tool chest on page 23 had an equally demanding brief but for a very different purpose. Tool chests come in all shapes and sizes and, like benches, the best one you'll ever own is the one you make yourself. It may not be the first one you make but eventually you'll hit on one that's right for you. As far as tool chests are concerned, I've witnessed the birth of a few but have yet to make one from scratch. It's a slippery slope and I feel myself being pulled closer to the edge all the time. So what's the

attraction? Are they a rite of passage? Do they appeal to a certain type of woodworker with an obsession for organisation or are they just part of our quest to become hand tool literate in as many regional dialects as possible? They're always a popular topic for discussion, that's for sure, and never fail to attract attention. In fact if you ever want to attract an audience, make a box, put something in it and sit back. Like moths to a flame people will start to gather.

More than that, a tool chest or bench is the perfect project to test your skill, not just as a woodworker but as a builder of useful things; things with a purpose and function. I mean honestly, how often do you get to write your own brief, be the customer and the craftsman?

Derek Jones

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Furniture & cabinetmaking

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PRINTED IN THE UK
Stephens and George Print Group

DISTRIBUTION Seymour Distribution Ltd
Tel: 020 7429 4000

Furniture & Cabinetmaking magazine (ISSN 1365-4292)
is published every four weeks by Guild of Master Craftsman
Publications Ltd

SUBSCRIPTION RATES (includes p&p)
UK Europe Rest of World
12 issues £51.00 £63.75 £71.40
24 issues £102.00 £127.50 £142.80

US subscribers visit www.lightningpublications.com for
subscription rates in USD \$.

Cheques made payable to GMC Publications Ltd
Current subscribers will automatically receive a renewal
notice (excludes direct debit subscribers).

Post your order to: The Subscription Department,
GMC Publications Ltd, 166 High Street, Lewes,
East Sussex BN7 1XU Tel +44 (0)1273 488005,
Fax +44 (0)1273 402866 Email: pubs@thegmcgroup.com
Website: www.thegmcgroup.com

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**Woodworking is an inherently dangerous
pursuit. Readers should not attempt the
procedures described herein without
seeking training and information on the
safe use of tools and machines, and all readers should
observe current safety legislation.**

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Front cover image by Charles Mak

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News & Events

Anthony Bailey reports back from the European Woodworking Show



PHOTOGRAPH COURTESY OF ERIC ANTHONY BAILEY

Inside the vast wheat barn at Cressing Temple where there were plenty of tools and supplies on sale

The much anticipated European Woodworking Show, courtesy of *Classic Handtools* was held 12-13 September, 2015 at Cressing Temple, Essex. It was extremely busy on the Saturday, while Sunday was a little bit quieter but more pleasant perhaps to wander around. There was a very wide variety of demonstrations, talks and trade stands to choose from. As always it was good to

see Nic Westermann forging an axe head, ably assisted by *Woodworking Crafts* magazine's green woodworking contributor Lee Stoffer. Then you could watch Steve Woodley smooth-squaring beams with a side axe, there was carving aplenty, including EWS stalwart Lenka Pavlickova with her

spooky puppets, Sophie Heron and her converted VW 'Volkwooden' camper van – off George Clarke's *Amazing Spaces*, Fiona Kingdon's complex scrollsaw work... honestly, the list was endless, with far too much to enter here.



Nic Westermann demonstrating the stages in forging an axe head from a blank piece of steel



One of Lenka Pavlickova's distinctive puppets in a running pose



Steve Woodley on top form dividing the trunk side before smoothing with a side axe



Rush hour at the European

Making his debut at the show as a demonstrator this year, was your Editor Derek Jones imparting his version of French polishing among other things, wryly termed 'Polish Anglais'. Sharing the Visitor Centre for the masterclasses was renowned expert on French Marquetry Yannick Chastang. Marquetry is growing in popularity and having Yannick at the show demonstrates EWS's commitment and passion to promote as many craft disciplines as it can. There were a number of new faces at the show this year; Oliver Sparks – see *F&C* 233 – Shane Skelton of Skelton Saws and one of

our regular Correspondents Kieran Binnie, all adding to the mix of talent. The star of the show was, without doubt, the venue itself with nearly everyone I spoke to in awe of their surroundings. None more so than the contingent of overseas guests, such as Dave Jeske of Blue Spruce Tools, Oregon, Ron Hock from California and Chris Vesper from Australia. When the superlatives had run dry though, there was ample refreshment on standby from the St. Peters organic beer stand and an all day hog roast.

With a predominance of hand tools the

show is a great place to pick up a bargain, whether it be used or new. The range and diversity is almost too much to stand and it was obviously hard for some visitors to come away empty handed. In most cases you can walk right up to the people that make the tools and get the lowdown straight from the horse's mouth. The European, as it's more commonly known, is definitely a show to add to your calendar, so watch this space advertising the 2017 Show, as it will be a biennial event. Certainly this time it was well worth waiting for, a great day out and definitely a 'feel good' event!



Bargains galore at every stand



Plenty of historical features in the grounds



Yannick Chastang in full flow during his Boule marquetry demonstration



Your editor midway through a masterclass on edge jointing – see *F&C* 237

Wallpaper* Handmade 2015

Danish designer Cecilie Manz and Denmark's oldest cabinetmaking workshop Rud Rasmussen have come together to reimagine the hotel minibar for Wallpaper* Handmade 2015. Manz's fresh, unexpected take on a classic object exemplifies her trademark modern, detail-oriented approach and Rud Rasmussen's classic craftsmanship. The design is a compact, distilled minibar cabinet composed of carefully selected materials that highlight the designer's and cabinetmaker's shared passion for detail, uncompromising quality and sublime craftsmanship.

"A minibar should be both a salvation and a temptation," says Cecilie Manz. "You should be able to find both water to quench your thirst and champagne to celebrate life." Manz's elaborate yet playful concept, however, does more than merely fulfill a function. The unique design incorporates diverse tactile, visual and auditory elements, encouraging its creators and its audience alike to think – and enjoy – outside the box.



PHOTOGRAPH COURTESY OF CECILIE MANZ AND RUD RASMUSSEN

Design Guild Mark call for entries 2015 now open!

The Design Guild Mark Call for Entries 2016 has now been launched during the London Design Festival, at 100% Design. The prestigious Design Guild Mark is awarded by The Furniture Makers' Company, the furnishing industry's charity, in order to drive excellence and raise the profile of British design and innovation.

The Award recognises the highest standards in the design of furniture in volume production, by the finest designers working in Britain or British designers working abroad. The judges are renowned experts in their respective fields and bring a wealth of knowledge and experience to the process. Gaining a respected Design Guild Mark Award brings prestige and publicity for designers, adding value for their clients.

For 2016, any designs that are awarded a Design Guild Mark are also eligible to be considered for two prizes which the independent judging panel will judge on the same day as the Design Guild Mark awards.

The Jonathan Hindle Prize for Excellence

Created in 2015 by Design Guild Mark founder Jonathan Hindle, this cash prize of £1,000 will be awarded to the most outstanding design. In 2015 the prize was awarded for the first time to Magnus Long, for the Cross Leg Chair designed exclusively for The Conran Shop, DGM number 129.

The John Makepeace Prize for Innovation

New for 2016, this £3,000 cash prize is to encourage

radical innovation that embraces and exploits current art and/or science. The prize will recognise and reward the designer of the most exceptional design that demonstrates new possibilities that has been awarded a Bespoke or Design Guild Mark, or has won a Wood Award in any one year.

To be eligible for entry to this prize please complete the relevant section on the Design Guild Mark 2016 Call for Entries form and provide additional images to illustrate your application. The Call for Entries 2016 is open now and on closes on Thursday 31 December, 2015.

DETAILS:

Contact: The Furniture Makers' Company

Web: www.furnituremakers.org.uk



PHOTOGRAPH COURTESY OF THE FURNITURE MAKERS' COMPANY

Cross Leg Chair by Magnus Long for The Conran Shop, awarded Design Guild Mark 129 and the Jonathan Hindle Prize for Excellence in 2015

Gorrings – Fine Art, Antiques and Collectables

Gorrings in Lewes are holding a Fine Art, Antiques and Collectables auction on 9 December, 2015. Gorrings came about when Rowland Gorrings opened offices in Lewes in the early 1920s as an estate agent and auctioneer. He held many sales in properties in Lewes and its environs, most famously being instructed to sell the contents of Lewes House, a collection built by the American art connoisseur and collector Edward Percy Warren. This sale created international interest as, in addition to a remarkable collection of early furniture and works of art, it included the major works – Auguste Rodin's

Gorrings
THE LEADING AUCTIONEERS IN THE SOUTH EAST

'The Kiss' ('Le Baiser') and 'The Portrayal of Adam and Eve' by Lucas Cranach The Elder. This sale was certainly the talk of the county and was followed by a series of instructions to sell country house contents.

Join Gorrings on 9 December, who hold a Fine Art Antiques and Collectables sale every seven weeks located at Gorrings

North Street Auction Rooms, Lewes. This is a well-established antiques auction holding between 2,500 and 3,500 lots of fine art, antique furniture, ceramics, silver, jewellery, collectables and other interesting pieces. The online catalogue will be available the week before the sale and sale commences at 10am.

DETAILS:

Contact: Gorrings – client services

When: 9 December, 2015

Where: Lewes North Street

Tel: 01273 472503

Web: www.gorrings.co.uk

Old skills are building a new future

Have you ever wondered where the next generation of technically-minded, work-ready individuals will come from? Ok it's a rhetorical question because I know you do. You tell me all the time and until recently I wasn't really able to offer much of an answer, just share your concerns that perhaps we might be staring into the future without having learned anything from our past.

This sceptre'd isle was the first nation to encounter an industrial revolution on a global scale and for a lot of us that's something to be proud of. After all it's largely responsible for laying the groundwork for most of the significant technological advancements in the last 200 years. But to be part of any future global industrial rejuvenation we first have to commit to being industrious and that means taking action.

It was Tory politician Lord Kenneth Baker who announced a revolutionary approach to dealing with what most of us would identify as a skill shortage. The silver bullet was to be a swathe of new University Technical Colleges – UTCs – geared specifically to link the needs of industry with the role of education. Past experience has demonstrated that for the last 30 years or more both sides were indeed engaged in conversation but weren't necessarily always listening to each other. The upshot being that the education conveyor belt has been churning out supremely qualified candidates with little or no capacity to slot into mainstream employment; the skills shortage being more of a skills gap.

To date, a total of 30 UTCs have been opened with a further 20 scheduled to open within the next two years. So far the results are promising with several already receiving 'outstanding' or 'good' awards by Ofsted and every student either transferring to further education, direct employment or apprenticeship style training. In a recent manifesto speech David Cameron announced plans to build a total of 500 colleges with a view to having one within reach of every major city in England.

Located on the banks of the Royal Docks in Newham, East London, the London Design & Engineering (LDE) UTC is scheduled to open in September 2016 with a pledge to match the same high standards. It's a huge undertaking and if it comes off the next generation of technically minded, hands on individuals will, to coin a political phrase 'never have had it so good'.

At the heart of the scheme is a commitment from local and national employers to have a say in what is being taught, how it's being implemented and more importantly when the time comes how that experience can pave the way for students to hit the employment deck running. It runs a little deeper than that though. The majority of funding for the UTCs comes from government with a large contribution from employer sponsors by



The view towards Docklands from the site of LDE UTC



Geoffrey Fowler, principal of LDE UTC



The four acre site before the the builders move in

way of hard cash, services or valuable staff time in kind. It's a partnership with a joint stake in both of their futures.

Successful passing on of the trades – I'll call them that because it conjures up an image of activities that we are all familiar with – is at the heart of the new UTCs. It's not however an image that has endured. Once upon a time getting a trade was a respectable goal but even though that is still the case perception is quite different. Simply put, the vocabulary of the modern 'trades' person has moved on. Construction is out and the built environment is in. Could a subtle change in the way we relate to trades be all that's holding us back? Why not, when the face of technology has come so far as to be unrecognisable by the founders of the industrial age.

The LDE will house some of the most technologically advanced equipment ever to be made available to 14-19 year old students; state of the art full colour 3D printers, CNC Lathes/mills, laser cutters, 3D scanners. In short students will be able to design or scan an existing product and press print. Now if that sounds a little scary

then imagine these concepts being taught alongside a range of hand tool skills within the context of a traditional cabinet shop. I'm not joking. Nothing could be more natural, or at least that was how Geoffrey Fowler, Principal of a new University Technical College (UTC) in East London described it. Creative design, process planning, making and evaluation are key skills for project managers in any discipline and cabinetmaking is a perfect environment in which to develop them. Although students may not look out onto a green and pleasant landscape they will have a realistic view of a world in which they can make their mark.

The London Design & Engineering Technical College (LDE UTC) is opening in September 2016 and is now recruiting students for years 10 and 12 (Sixth Form), so prospective students will currently be in years 9 and 11. The closing date for applications to join the College is 29 January, 2016.

For more information go to www.ldeutc.co.uk

TIMBER TRADE NEWS Drought stress and trees



PHOTOGRAPHS COURTESY OF SAINT TROPEX

Drought can affect timber quality

There is no precise definition of drought, the degree to which lack of water causes stress in trees depends on the physical climate, soil conditions and the tree species concerned. In the humid lowland tropics, a week without rain is a long dry spell, in northwest Europe it would scarcely be noticed.

The first effect on trees from a lack of water is wilting of the leaves, which initially recover at night. More severe drought causes leaves to shrivel at the edges, or develop patches of dead tissue. Some species, such as birch (*Betula pendula*) then shed their leaves; this greatly reduces the need for water, but prevents growth and would ultimately kill the tree, because it would use up all its reserves of energy. Other symptoms include splitting of the bark and gummy exudates. Droughts in northwest Europe are seldom severe enough to kill trees, but may result in poor growth in subsequent seasons. The effect on timber quality is to reduce growth, leading to narrower growth rings and, in trees which produce spring and summer wood, a reduction in the latter. In teak (*Tectonia grandis*) the dark streaks are a result of dry season drought stress; teak from wetter localities does not show this feature.

Chris Prior

National Tradesmen Day Final



PHOTOGRAPHS COURTESY OF IRWIN TOOLS

Mark Baker gives Stacey Greenwell his award

IRWIN® Tools announces the winner of the 2015 National Tradesmen Day competition. Stacey Greenwell from Stoke-on-Trent impressed the expert judging panel with his dedication to the community. He was nominated for his commitment to rejuvenating derelict areas of town, in order to provide homes and jobs for those in need. He was one of hundreds of nationwide nominations and beat five other finalists to be crowned 2015's Ultimate Tradesman. As this year's winner, Stacey will drive home a brand new Ford F150 4x4 truck worth over £35,000.

Michael Potter, Associate Brand Activation Manager, IRWIN Tools EMEA commented "The competition for this year's National Tradesmen Day was fierce but the judging panel felt that Stacey's positive impact on the community and his drive to go above and beyond his daily role, really made him stand out. Our society relies heavily on the good work of tradesmen and women but their efforts are sometimes overlooked. National Tradesmen Day aims to raise the profile of these people working behind the scenes and Stacey was very deserving of the title this year."

Stacey commented: "I'm so thrilled to win

the National Tradesmen Day competition. It feels good to know the work I do is appreciated and this award is a testament to the great team of individuals I work alongside. I never win anything and my family will be really proud."

35-year-old Stacey started his career as a Ceiling Specialist 14 years ago and now owns a successful business, which he runs alongside a whole host of renovation projects. These projects involve finding and restoring residential properties to their former glory, creating new homes for local families. He also offers jobs to those struggling to find employment, giving them the opportunity and skills needed to follow a rewarding career path. He is well respected within the industry and has become an integral part of his community.

National Tradesmen Day is a global initiative that continues to champion men and women who make a real difference through their work. IRWIN Tools continues to celebrate this invaluable workforce and encourage a new generation of talented individuals.

DETAILS:

Contact: IRWIN Tools

Web: www.irwin.co.uk

The Woodworkers Institute web forum

Why not join in the discussions on all matters woodworking on the Woodworkers Institute web forum? Covering all four GMC woodworking titles, including F&C, you can view the work from fellow craftsmen, exchange useful hints and tips, or join in on the hot topic of the day on the live forums. To register, simply log on to www.woodworkersinstitute.com, click the register button, and follow the instructions.



Events

PHOTOGRAPH COURTESY OF WWW.ALEXANDERARTS.CO.UK



Record Power at The North of England Woodworking & Power Tool Show with Snainton Woodworking Supplies

Record Power will be on hand to answer your questions and demonstrate products from their extensive range over the weekend. In addition, exclusive show deals will be available on the day, making this an event not to be missed!

When: 20-22 November, 2015

Where: Hall 1, Great Yorkshire Showground, Harrogate, North Yorkshire, HG2 8NZ

Web: www.recordpower.co.uk

IMAGE COURTESY OF BONHAMS

Bonhams 1793

Bonhams Europe – Defining Style auction

Bonhams is a privately owned British auction house and one of the world's oldest and largest auctioneers of fine art and antiques. The Bonhams name is recognised worldwide throughout all sectors of the fine art, antiques and collectors market, with several of its departments established world leaders within their specialist category.

The 18 November, 2015 sees Bonhams' Europe – Defining Style auction, an auction of fine furniture, sculpture, works of art, silver and gold boxes.

When: 18 November, 2015

Where: London, New Bond Street, 101 New Bond Street, London, W1S 1SR

Email: info@bonhams.com

Web: www.bonhams.com

Brussels Furniture Fair

The Brussels Furniture Fair is being held from 8-11 November, 2015 at Brussels Expo. The Fair is now in its 78th year and continues to present local and worldwide exhibitors and steadily attract more international visitors.

This year will see around 300 companies exhibit at the fair – around 40% Belgian manufacturers including Karel Mintjens, MTE Theuns and smaller names. In addition, there will be several Dutch companies such as PMP, Richmond, Eleonora and By Boo, large Italian players Natuzzi, Calia and



PHOTOGRAPH COURTESY OF HANDMADE IN BRITAIN

Three days. Over 120 makers. The ultimate shopping treat

Handmade in Britain

This Christmas, avoid the high street and opt for handmade at Handmade in Britain 15, the annual showcase of the very best of contemporary British craft and design at Chelsea Old Town Hall. Browse exceptional crafts, buy unique and original gifts or commission a bespoke piece of work directly from over 120 of the UK's finest designer-makers, each handpicked by a panel of industry experts.

The show is a wonderful opportunity to shop for exquisite ceramics, glass, furniture, textiles, jewellery and silverware in a beautiful, historic venue. Makers will be on hand throughout the weekend to talk to you about their work and showcase their collections, inviting you to learn how your favourite pieces are made and to discover the story behind that perfect gift. On Saturday evening headline sponsor Home of Artisans will be hosting an exclusive late night shopping event, giving visitors the opportunity to enjoy browsing in a relaxed and festive atmosphere until 8pm.

When: 13-15 November, 2015

Where: Chelsea Old Town Hall, Kings Road, London SW3 5EE

Contact: Handmade in Britain

Tel: +44(0) 207 2865 110

Web: www.handmadeinbritain.co.uk



IMAGE COURTESY OF GMC/ANTHONY BAILEY

Join Peter Sefton at Threshing Barn

Woodworkers Workshop Hand Tool Day

Wood Workers Workshop are having a Hand Tool Day, so why not visit the workshop, meet Peter Sefton and see professional demonstrations. There will be loads of tools for sale alongside hand tools sourced from some of the best English tool makers, plus you can get expert advice on buying tools and Peter Sefton will be demonstrating hand tool techniques.

The event takes place on Saturday 28 November, 10am-4pm. The organisers believe they have the best in-house routing demonstrations setup in the UK and visitors will be able to see expert demonstrations from quality imported US Brands such as WoodRiver – exclusive to Wood Workers Workshop – Incra, Woodpecker and Easy Wood Tools.

When: 28 November, 2015

Where: The Threshing Barn, Welland Road, Upton Upon Severn, Worcester, Worcestershire, WR8 0SN

Contact: Peter Sefton

Web: www.peterseftonfurnitureschool.com



Egoitaliano and big German names like Himolla, Rauch and Nolte.

"Belgium is a small country, but with an important furniture industry that has a lot to export, and not just on a European level – the most important players export all over the world," says show director Lieven Van den Heede.

"Brussels Furniture Fair is a no-nonsense fair with a lot to offer. Therefore we seek to have an interesting mix of collections from our exhibitors so there is something to see for every buyer. To streamline this offer, the fair is subdivided into segments, that group the same style of furniture. On a European

scale, we are a rather small fair – certainly if you compare it to Milan and Cologne. But the fair is also big enough to be worth the travel to Brussels to discover the unique and inspiring collections from our exhibitors."

When: 8-11 November, 2015

Where: Allée Hof ter Vleestdreef 5b7, 1070 Brussels, Belgium

Email: adm@furniturefairbrussels.be

Web: www.meubelbeurs.be

■ THE CHIPPENDALE INTERNATIONAL SCHOOL OF FURNITURE

A loud table, accordion to Norman

Pull out the drawer of a table and you rather expect it to glide out quietly and smoothly. Not so with Norman Mackay's coffee table, made from Scottish elm (*Ulmus glabra*) and fitted with the internal workings of an accordion. You can see – and hear! – on his website. Norman, a graduate of the Chippendale International School of Furniture, runs Woodeye Furniture from incubation space at the School and combines a woodworking career with life as a musician.

A Highlander by birth, Norman has played the button accordion from an early age and plays with Norman Mackay's Ceilidh Experience, a fusion band that mixes up the traditional with modern rock.

Norman has appeared on radio and TV and a film for which he wrote music was featured at the Cannes Film Festival. "A diatonic reed block was used for the drawer's 'voice' and limited to two chords – one out and one in. After much thought, I decided to go for Amen. The only other options I could think of were the theme tunes to *Jaws* and *Psycho*, which I didn't fancy much," says Norman.

His hand-crafted table can be made to order, taking up to eight weeks to construct and other musical furniture ideas are in the pipeline. Musical chairs, perhaps? For more information, see www.chippendaleschool.com and www.woodeyefurniture.co.uk.



Norman Mackay sat upon his coffee table

■ NOTTINGHAM TRENT UNIVERSITY

3D printing creates furniture of the future

A student has designed a unique way of 3D printing stools, which could call time on traditional spring-based furniture. Martyn Catchpole, 24, who's studying MA Product Design at Nottingham Trent University, is 3D printing nylon lattices as an environmentally friendly alternative to polyurethane foam and springs. The lattices – which can be custom made to reflect varying levels of comfort – can withstand compression as similar to metal springs. And when the product is ready to be disposed of, the lattices can be removed and melted down, to be re-used as 3D printing material again.

"Most polyurethane, spring-based furniture ends up being thrown in landfill as it isn't economically viable to strip it," said Martyn, who's studying at the School of Architecture, Design and the Built Environment. "So I was keen to design something that can be easily recycled so the materials aren't wasted."

"I wanted to rethink how furniture is made and use new technologies that weren't available before. For instance, a lattice of this type cannot be made from a mould. To make it correctly, it has to be 3D printed."

Grant Baker, senior lecturer in product design at Nottingham Trent University, said: "Martyn has shown how new technologies like 3D printing can be used to improve existing products and make them more environmentally friendly."

"It's a good example of how our postgraduate students are rethinking traditional approaches to design and offering better alternatives which weren't available before."

Contact: Nottingham Trent University
Web: www.ntu.ac.uk



Examples of Martyn Catchpole's experiments into 3D printed furniture.

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First staged in 1995, the show has been run by leading independent publishing and events company Media 10 since 2012.

The 2015 show took over a new venue, having moved up the road to Olympia London. Staged over 20,000m² and across two floors of the venue, 100% Design is the commercial cornerstone event of the London Design Festival.

The award-winning layout of the show was defined by four key industry sections; Interiors, Workplace, Kitchen & Bathrooms and Design & Build. New for 2015 were the Luxury and Modern British sections.

The show also featured specially commissioned editorial hubs across the floors and was topped off by critically acclaimed Talks with 100% Design programmes running across the four days.

Exhibitors were carefully selected, reflecting the show's focus on design quality, innovation and relevance to the architecture and design community. These companies and products, alongside a comprehensive roster of the best media and specialist industry partners, contributed to make 100% Design an

essential destination.

Show Director, Will Knight said: "It's an exciting time for everyone involved in 100% Design; exhibitors, content providers, designers and the show team at Media 10. Since taking the show on in 2012 we've worked to refine and develop the exhibition in September, but also the year-round activity in the form of events, talks, marketing and promotion. We're focused on delivering success through innovation and curation, bringing you the best in design in its many forms." 100% Design look forward to seeing you next year from 21-24 September, 2016.

Contact: 100% Design
Web: www.100percentdesign.co.uk

If you're a member of a collective and would like to raise your profile then submit a story to derekj@thegmcgroup.com



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Editor's round-up...

Having trouble sourcing the right tool for the job? Derek Jones sets about identifying the essential tools and equipment on offer this month

All sterling prices include VAT, correct at time of going to press



PHOTOGRAPH BY GUY/DEREK JONES

There are some jigs in the workshop that only come out once in a blue moon and there are others that go beyond 'jig' status and become, pretty much, part of the furniture. My Moxon is beginning to look that way. Now, whether it's just plain dovetailing or something more obscure, I find myself wandering over in its direction for the convenience and simplicity of a silky smooth running twin screw vice. Second only to my shooting board, it's probably the best value-for-money couple of days I've invested in the workshop for a while. At £152.40 from Classic Hand Tools the Bench Crafted kit might seem like a bit of an extravagance, but

I doubt you'll feel that way after a couple of hours. It'll outlive you and yours, that's for sure and with that as your benchmark for value, it starts to make a little more sense.

It's not often we go all out for nails in F&C, but tackling a project that requires authenticity will invariably send you off into uncharted waters. One of the most frequently asked questions I encountered this summer was 'where did you get your cut nails from?' The answer was Tremont Nail Company, in Massachusetts and the nails were being used to build classic six board tool chests. I've since discovered something closer to home for when you have a similar project in mind –

see over the page.

Whether you're a hand tool junkie or machine thoroughbred, technique will always be your trump card. I've been trying out a new dovetail saw from Bad Axe this summer that has the potential to be something of a game changer. A good quality modern dovetail saw will typically measure 10" long but the Bad Axe 'Stiletto' has a little extra steel at each end making the plate 12" long. For the science behind that decision and whether it stacks up you'll have to wait until next month for a full review, so for now let's just add it to the other items on our 'heads up' list for this month.

12" Dovetail saw – Stiletto

The symbolic fighting knife for Special Operations Forces worldwide is the stiletto – such as the WWII-era V-42. The V-42 was the quintessential combat knife designed for thrusting. Its length and stiffness were features that made it capable of penetrating even the toughest of barriers, yet it was light enough to wield with confidence and comfortable to hold, melting into the palm of your hand with surety and purpose.

Likewise, the new Bad Axe 12" dedicated dovetail saw – christened the Stiletto – will take care of all your serious dovetailing requirements and perhaps be the last dovetail saw you'll ever own. The additional two inches of throw, light weight, exquisite balance and results-oriented action will give you the kind of accuracy you want with unmatched precision. Bad Axe size its handles, so the Stiletto will fit your hand.



New Le-Matic edgebanders

Two new edgebanders from Le-Matic are now available: the BR500 and BR300. These portable edgebanders can be used for applying veneers to straight or curved panel edges in PVC, ABS, laminated and solid woods. Both have many patented features not found on other portable edgebanders.

Both machines are light, versatile, accurate and easy to use and maintain. They are perfect for on-site work or integration into a woodworking workshop. These machines have everything that the small – or medium – scale furniture producer would require to get started, including the TK65 Dual End Cutter and a sample glue pack. All items are contained in a storage container, mounted on a wheeled trolley. The BR300 and BR500 are backed by a two-year warranty. Prices valid until 31 December, 2015.



Veritas mitre plane

When shooting, the side-mounted horn on the Veritas mitre plane lets you push the plane with the web of your thumb, leaving your other hand free to hold the workpiece. The shooting horn can be attached on either side of the plane for right- or left-handed use. Deep finger grooves in the sides and the front knob provide a secure grip while the rear knob provides a comfortable palm rest for driving the plane forward.

The mitre plane's mass and size are advantages for shooting and creating mitres for larger work such as moldings. By loosening the front knob, the plane's adjustable mouth can be set to a fine opening; a brass thumbscrew retains mouth settings and prevents the toe from contacting the blade. The Norris-style adjuster extends under the rear knob to allow easy adjustment while staying out of the way. Two blade guide screws prevent lateral blade shifting.



➤ New Axminster Trade Series dust extractor

This wall-mounted dust extractor is rather a neat concept and perfectly suited to small workshops, woodturners or for connecting to a stand-alone machine. Well made and efficient, its 1hp motor generates 1,000m³/hr of airflow and is fitted with a 1 micron rated cartridge filter making it capable of handling chippings, coarse and medium-fine dusts. It is ideal for situations where floor space is limited.

A 50L collection bag is clipped to the bottom of the filter but larger bags can be fitted providing adequate support beneath the bag is in place. The filter has a crank handle operating a paddle to keep the interior clean, which should be used periodically to maintain filter efficiency.

This quiet and efficient extractor could well be a handy solution for small workshops; it is important to make sure the wall is capable of supporting the extractor's weight, approximately 27kg net. Price valid until 31 December, 2015.



From £6

Forged nails

Packs of 100 square-sectioned, large-headed, blued steel nails forged from cold drawn stock. Due to their irregularly surfaced four-sided shafts – and larger surface area – forged nails are more difficult to pull out than their common round or oval counterparts. A slight taper down the length of these nails also helps reduce the risk of splitting when used near the ends or edges of boards. Available in three sizes, door nails of about 30mm, board nails of 50mm, and floor nails of 70mm.

In most applications you'll get better results with a little predrilling, think pilot hole as if you were using a screw, and aim for a depth about a third short of the length of the nail. The heads are 'rose' or 'domed' depending on who you ask and aren't meant to be sunk below the surface. Their hammered head is completely in keeping with forged hardware. A little extra care with the spacing can make them a feature detail on period style pieces.

Lamello's new Divario P-18 connectors

Those clever people at Lamello have once more applied their woodworking creativity to the company's latest fitting solution – the Divario P-18 connector.

What makes the Divario P-18 so innovative? The P-18 is a self-clamping, sliding connector which allows easy installation of dividers or shelves into a fixed frame or structure. It requires no glues or clamps; the result is a strong joint with no visible connectors or shelf pin supports. It is a simple procedure of cutting a groove on the edges of the shelf along with a P-slot for the body of the connector. The other half of the connector fits into a pair of 8mm diameter holes drilled into the side supports. The Divario

P-18 supports the shelf or divider during insertion, making assembly even more straightforward. This narrow connector allows use in shelves from 19mm thick and sides as little as 12mm thick. The Divario P-18 is a completely concealed connector. It results in a clean appearance thanks to closed joints and allows greater design freedom without sacrificing stability.

A special installation tool ensures that the alignment of the body of the connector is correct after the P-18 has been placed in the slot. A sharp tap with a hammer sets the positioning pins, keeping everything in the perfect position.



From £62.95



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Narex 8869 Gunsmiths Screwdrivers – set of 3

Normal screwdrivers for slotted screws are tapered, which makes it easy to slot them in quickly but means that they only contact the slot at the top corners. A gunsmiths screwdriver is hollow ground with a parallel tip that engages fully with the slot in the screw. It is a little slower, but much less likely to mar the screw head. The screwdrivers have hardened, polished and lacquered blades, stained beech handles with knurled brass ferrule. The set of three includes a $\frac{3}{16}$, $\frac{1}{4}$ and a $\frac{5}{16}$ in.

This is a great set for carrying out routine maintenance of tools, like separating the blade from your chipbreaker or undoing old-style steel slotted screws. The extra purchase afforded by the shape of the blade makes them perfect for tackling the odd



£34.50

stubborn screw. If you find yourself in need of a little more leverage then you can place a small adjustable wrench to the blade.



Simon James holdfasts

Read the popular woodworking press and you could be forgiven for believing that holdfasts are making a comeback. Although they're gaining in popularity, it's not a return to the past, at least not in Merry Olde England. Holdfasts you see, were popular in the rest of 17th-century Europe, but nowhere nearly so at home in Blighty... until the works of Roubo became the bedtime reading of choice for modern woodworkers. But don't let that put you off, especially if

you can get your hands on a set like these by Simon James. Nothing could be simpler than bending a piece of round bar over and flattening the end to make a clamp. Break that down into the 20 separate steps to make the said bar the pleasing form that you'd want to have on your bench top and there's nothing simple about a holdfast at all. Except of course how to use them. These are my first set, which admittedly makes me a little late to the party, but so glad I came.



£49



Contacts

12" Dovetail saw - Stiletto

Contact: Bad Axe Tool Works

Tel: (608) 520-0729

Web: www.badaxetoolworks.com

Axminster Trade Series dust extractor

Contact: Axminster

Tel: 03332 406406

Web: www.axminster.co.uk

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Web: www.workshopheaven.com

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Communing with nature

14-12 Chair, from Waters & Acland

The latest masterpiece from Waters & Acland's Lake District studio is the 14-12 Chair. It comprises 714 separate ash (*Fraxinus excelsior*) laminations painstakingly formed and hand sculptured into a sumptuous composition. For head maker at the studio, Tim Smith, it represents the culmination of eight months' work

by a team of dedicated craftsmen and a particularly passionate and trusting client.

With one continuous section of laminate measuring more than 3.5m long there are no visible means of construction to be found anywhere on the frame. Designer Will Acland says: "With clear points of inspiration coming from nature and heavy influences from iconic

DESIGN & INSPIRATION

Communing with nature

designs of the last century, the 14-12 Chair is certainly the most complex creation to come from the Waters & Acland workshop to date". The compound curved seat and back are upholstered in soft leather and appear entwined in the frame, yet floating in mid air.

Sculpture and furniture aren't always natural bedfellows but we think the 14-12 is one of those rare pieces that could easily take up residence in either world.

The design, however, is in its infancy as the studio have already begun work on a new version that will expand the concept further. If the 14-12 is just an overture then I can't wait for the finished symphony.

Don't miss our interview with Tim Smith in the next issue. *F&C*



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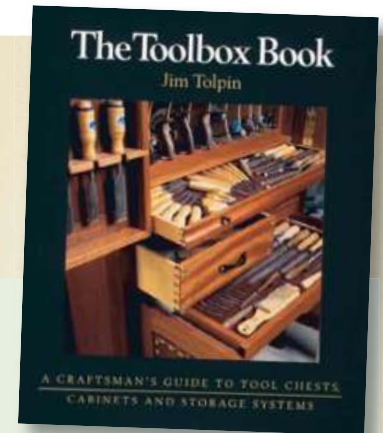
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These are unique products made by combining two cutter heads, ideal for making furniture doors and drawers. By adjusting the height of the head it is possible to cut two perfectly fitting profiles with no waste of time or efforts to move the fence or to replace the tool. *Special Offer is for 30mm bore only*

Building a masterpiece – tool chest

In an extract from *The Toolbox Book*, Jim Tolpin looks at building a masterpiece in the form of a tool chest

PHOTOGRAPHS BY VINCENT LAWRENCE, UNLESS OTHERWISE STATED



The Toolbox Book

This excerpt is taken from *The Toolbox Book*. To purchase a copy for yourself, see details below:

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When you understand that Tony Konovaloff, of Bellingham, Washington, once made a living building Shaker-type furniture entirely by hand, it is not too surprising to learn that he built a most impressive tool chest with hand tools only. The chest, shown above, is made primarily of black walnut (*Endiandra*

palmerstonii) and contains more than 400 tools – nearly all the tools of his trade. From the outside, Konovaloff's toolbox is similar in shape and size to a late 18th-century cabinetmaker's chest, but inside there are many significant alterations to the traditional design. The most immediately obvious design deviation is the unusual orientation of the

drawer tills – they slide across from side-to-side within the box, rather than from front-to-back. Why this change? After working with a traditional layout for a few years – and hating it – Konovaloff decided that narrower tills would bind less than wider front-to-back tills and that they would require only one hand to manipulate. He was tired of constantly

having to withdraw tills entirely from the box to make them easier to access and then balancing them precariously on the corner of the box or on his tool bench. After working with the new box for a few years now, he feels the change in orientation was a good idea. The side-to-side tills are definitely much easier to get into and they tend to stay in the box where they belong.

In addition, these tills, which are smaller than was traditional, leave ample room for another innovation: lift-out sharpening and drill boxes. To get at the tools stored in the bottom well, Konovaloff removes these boxes and reaches down between the sliding tills. The lift-out boxes are normally removed at the beginning of a typical workday and set next to the chest. At the end of the day, they're the last items to be returned to the box.

In yet another departure from traditional chests, Konovaloff created storage for many of his most frequently used tools independent of tills or trays. Because he was going to attempt to make his living working out of this tool chest, one of his prime design objectives when creating it was to make the tools as readily accessible as possible – a single hand motion was the goal.

Beneath the lift-out boxes, drawknives and spokeshaves hang on perches at one end wall of the box while several marking knives and a straightedge hang along the back board – also exposed on perches when the lift-out boxes are removed. Between the lift-out boxes are a folding rule, a framing square and the beam of a panel marking gauge. At the other end of the box Konovaloff placed a wide variety of chisels, their handles set upright and immediately accessible. Since the blades aren't visible, he has to rely on memory to grab the one he wants.

Finally, take a look at the inside of the chest's hollow lid. While you occasionally see hollow, or even double, lids in traditional chests it is rare to see one that contains this number and variety of saws – there are 15 mounted here! To support the weight of this sawstudded lid, Konovaloff added a pair of sturdy hinged supports to the back of the box. While lid supports are undoubtedly a useful feature in any lidded box to prevent the hinges from pulling out or racking, it's surprising how rarely one sees them in traditional boxes. When you do they are often only in the form of a narrow ledge, which, because it acts as a fulcrum for the stress against the hinge, often does more harm than good.



In a departure from tradition, the tills and boxes in this chest slide side-to-side, creating easy access to the bottom of the box. The Latin motto 'Art endures, life is short' is a fitting testament to this lengthy, painstaking project



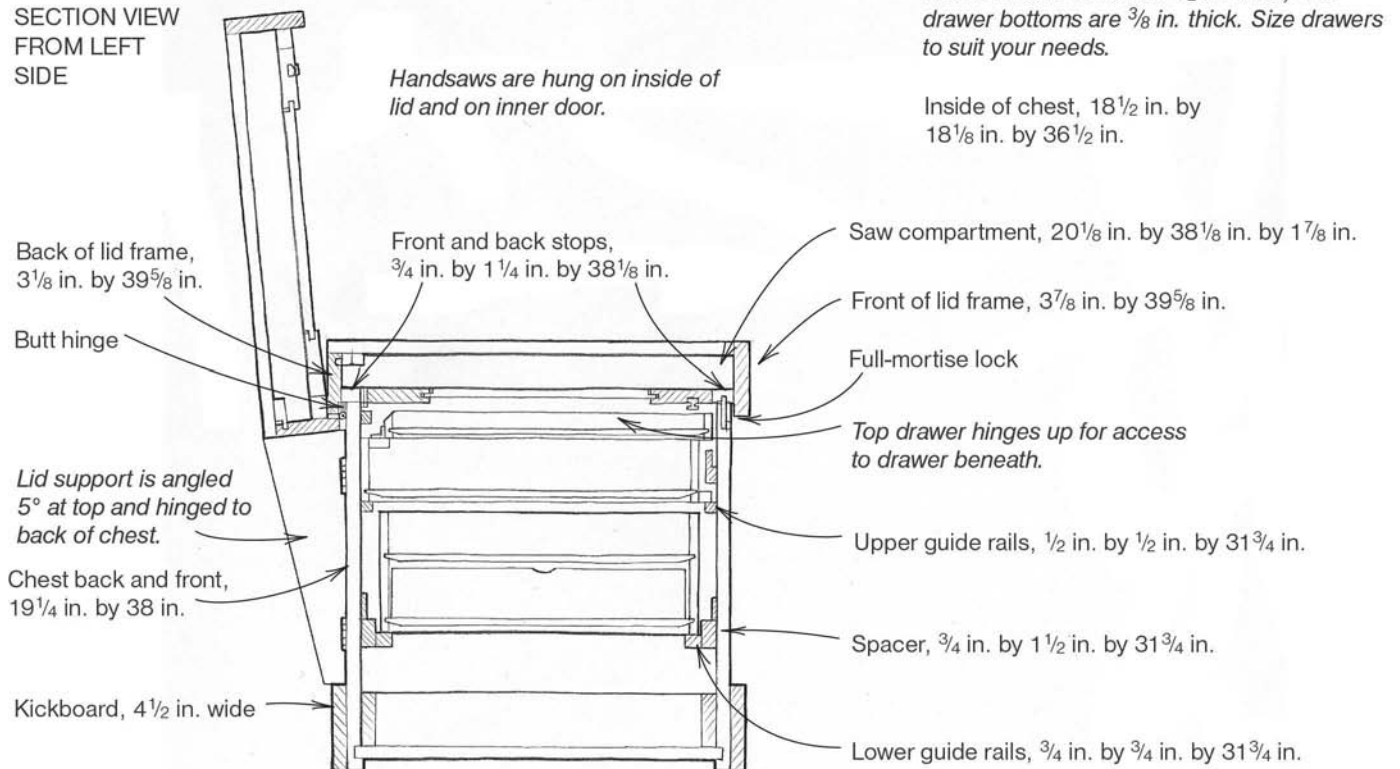
Tony Konovaloff's tool chest holds more than 400 tools and weighs close to 400 lb. when fully loaded



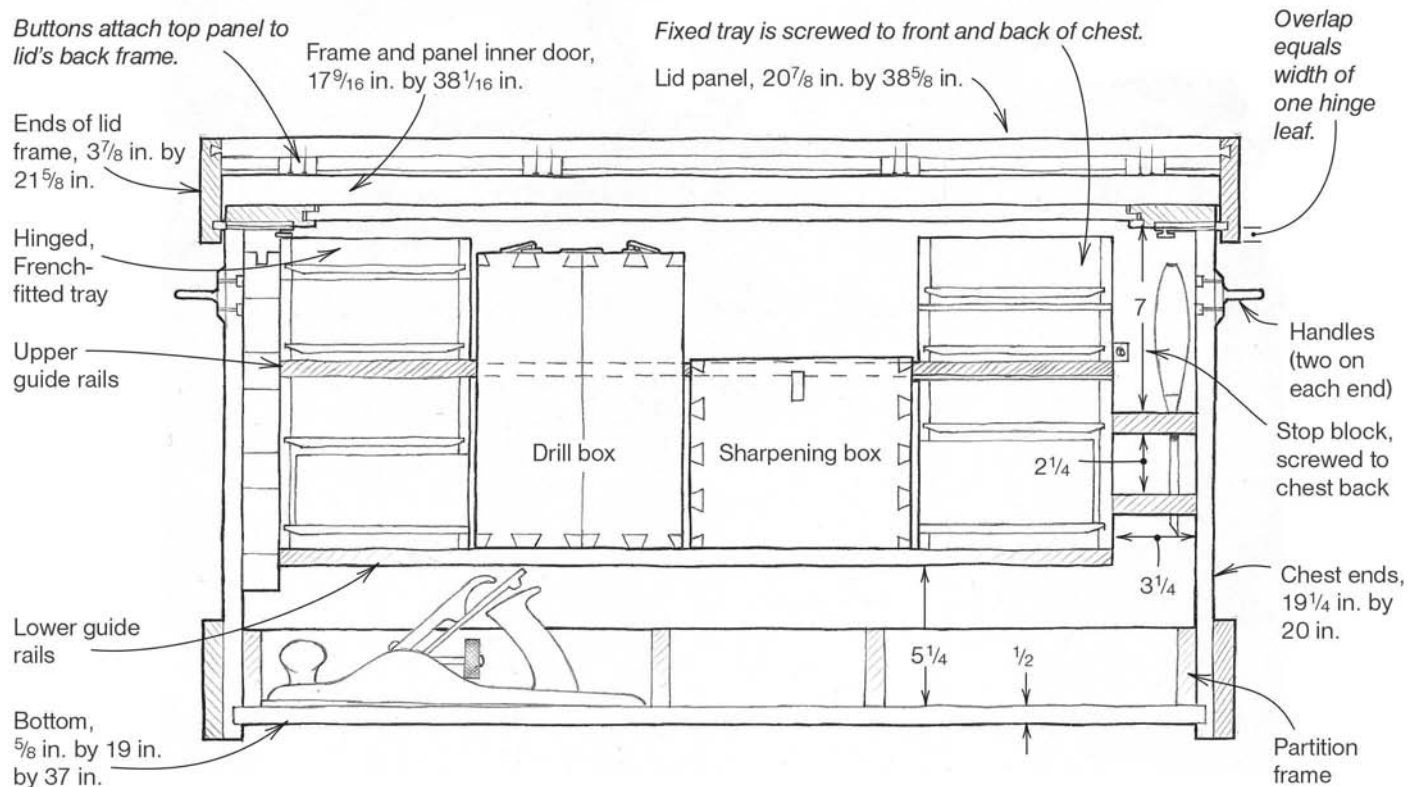
The hollow lid stores 15 saws

Tony Konovaloff's Tool Chest

SECTION VIEW FROM LEFT SIDE



SECTION VIEW FROM FRONT



Design notes

Tony Konovaloff stopped counting his construction hours after about the first 250 – art to last the ages obviously takes time. But art won't happen at all until you take the first step, and for Konovaloff that meant laying out all the hand tools he used in furniture building to determine how big a chest he would need to contain them. In essence, Konovaloff designed his box from the inside out.

It is interesting, though not surprising, to note the size of the box Konovaloff wound up with: 21 5/8 in wide by 39 5/8 in long by 22 5/8 in high – dimensions that are well within the range of a number of measured traditional cabinetmaker's chests. To determine the footprint of the box – the width and length – he laid out the hand planes and other large tools that would be kept in the bottom well, nesting them closely to minimise the space they would take up – he represented the dividers with masking tape. The inside height of the front case had to be at least 16 in – enough for the standard framing square that would hang against it.

Konovaloff had to take two things into consideration when he developed the size of the two sliding tills. The first was the size of the tools they would contain. The second was the amount of room he needed to leave between the opposing tills to allow him to lift his largest tool, a No.7 jointer plane, out of the bottom well of the chest. Once he knew how much space he had to leave between the two tills, he designed the lift-out sharpening and drill boxes to fit. He was careful to leave room for the rack of chisels and the perches for the drawknife and spokeshaves. Finally, Konovaloff designed the size of individual drawers within the tills to contain certain groupings of tools.



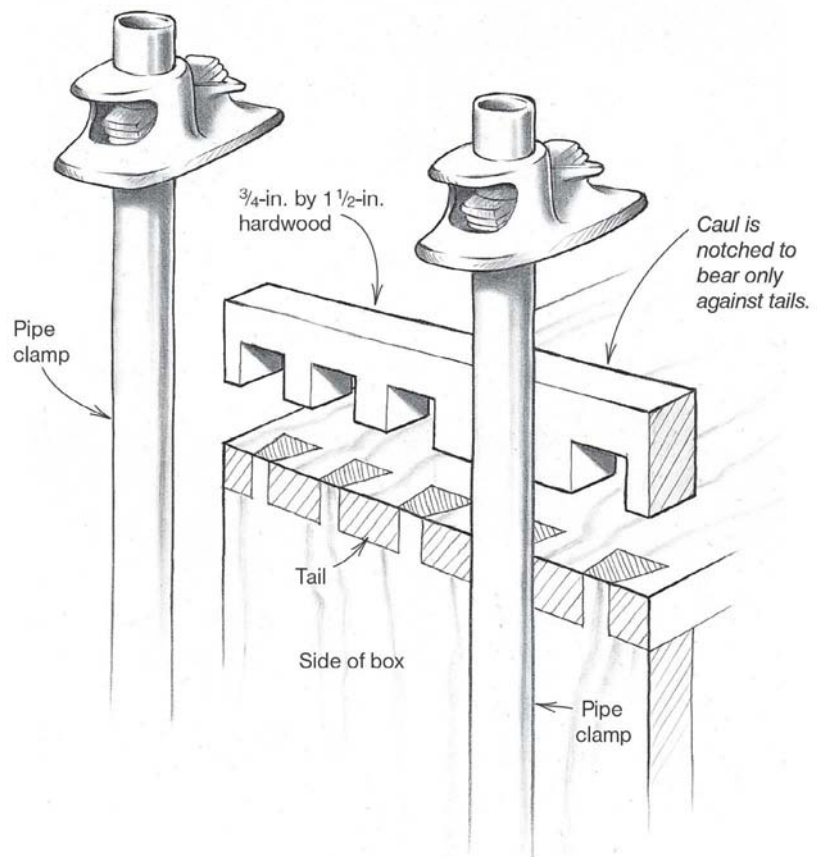
Lift-out boxes hold a variety of small hand tools; note the French-fitted tray at left

Construction procedures

Tony Konovaloff built his box exclusively with hand tools, following the old-fashioned procedure of cutting and fitting one piece at a time. When working with modern power tools, it's generally more efficient to cut out all the pieces at once, but with hand tools, there is no particular advantage to using production-style techniques to prepare or mill the wood. The instructions that follow assume that you will, like Konovaloff, build this box exclusively with hand tools. You may, of course, use power tools wherever you like.

Making up the case

After determining the overall size of the box and its interior fittings, sketch out various aspects of the box. When you are happy with the design, you can begin construction. Choose boards for the sides of the box and edge-glue them to width. Hand-plane them flat with a scrub plane and then finish the board's surfaces with a smoothing plane. Next, plough grooves – with a combination plane – near the base of the side and end boards to accept the bottom panel. To bring both visual and





physical lightness to the box, you can make this panel up of several edge-joined boards of light coloured alder.

The next step is cutting the through-dovetail corner joints. Cut the tails first, and trace them to mark out the pins. Trim the pins to fit between the tails with rasps followed by files, then dry-fit the sides together around the bottom panel. When you are happy with the fit, reassemble the box, this time using glue in the corner joints and in the middle area of the bottom panel – so it can shrink and expand in its slot from either end. Insert notched cauls under the clamp pads to hold the dovetail joints tight – see the drawing above. Check diagonal measurements to ensure that the chest is absolutely square before setting it aside to dry.

Remove the case clamps once the glue has set and then cut the bottom skirt boards to width and thickness. Cut the end pieces to length and make the pins. Attach these pieces to the box by driving in screws from the interior of the box. Working in this order will help you accurately lay out the tails on the front and back skirt boards and will ensure that these pieces will fit tightly to the case after you cut these joints. Now cut the tails and install the skirts to the case, also screwing them in place from the inside of the box.

Making and installing the drawer tills and other storage fittings

Begin work on the chest interior with the bottom well – a 3-in-high framework of dadoed partitions sized to fit precisely within the box. Then make up and install the array of hangers designed to hold various tools. Finally, build the four drawer tills, the two open trays and the two removable boxes. Construct these all in similar fashion: hand-dovetailed sides joined around a bevelled board inserted into a ploughed groove. To support the tills in the case, screw guide rails into the front and back of the case. Note that the top tray on the right is fixed permanently into the box and the top tray on the left is hinged to the underlying sliding drawer till. The tools in the hinged tray don't fall out when the tray is tilted because they're held tightly in place in French-fitted recesses. This type of tray provides a felt – or leatherlined, close-fitting compartment for each tool.

Making a French-fitted compartment

Cradling your tools in a French-fitted drawer or tray is an excellent way to show your love for them. The close-fitting compartments keep the tools from rolling

about and damaging themselves and their neighbours. Even if the drawer is knocked about or tilted almost on end, the tools will stay safely in place. Best of all, French-fitting is not all that mysterious or hard to do. Begin by cutting the tool board to size from a piece of clear $\frac{3}{4}$ -in thick wood or hardwood plywood. In most cases, the width and length dimensions will be the inside diameter of the drawer box or tray banding. Lay out the tools you wish to carry in the board, drawing their outline with a pencil. Add a bit to allow for the lining material – $\frac{1}{16}$ in for leather, a little less for felt. Draw in a notch for a finger pull near the balance point of the tool.

Drill starting holes for your jigsaw, coping saw or fretsaw, and cut to the inside of the outlines. If you can't get into tight corners with the sawblade, file or chisel to the line. If you intend to apply finish to the top surface of the tool board, do it now. Now cut strips of lining material to the thickness of the tool board, adding about $\frac{1}{8}$ in for trimming. Apply contact cement to the inside perimeter of the tool outlines.

“French-fitting is not all that mysterious or hard to do”

And then...

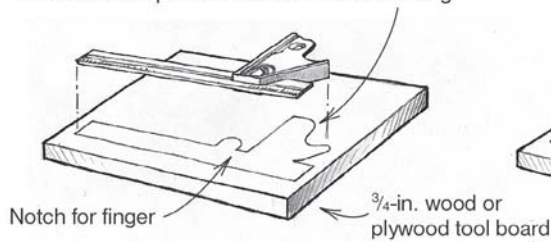
Attach it to the tool board from below with screws – and glue if you chose not to surface it first with material. If you cut the bottom linings for each tool compartment to shape, glue these in place now. Finally, cut the drawer box sides or the tray banding to size. Install them around the completed tool board. Now you can put your tools in their softly lined nests and to the material, and then glue it in place. Press the material into the tight corners – use the side of a file or nail set to apply pressure – as you work your way around the edge. Using a sharp razor blade, trim the material flush to the top and bottom surfaces of the board. If you are working with leather, bevel the top edge so it won't catch on the tool as you lift it in and out. To cut the material to line the bottom of the tool compartment, trace its shape through the cutouts. You can also skip this step and apply the material to the entire face of the substrate. Next, cut out the $\frac{1}{4}$ -in plywood substrate. To use the substrate as a tongue into the surrounding banding or drawer box, let it protrude $\frac{3}{16}$ in to $\frac{1}{4}$ in all around. Attach it to the tool board from below with screws – and glue if you chose not to surface it first with material. If you cut the bottom linings for each tool compartment to shape, glue these in place now.

Finally, cut the drawer box sides or the tray banding to size. Install them around the completed tool board. Now you can put your tools in their softly lined nests. ➤

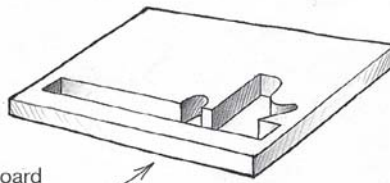
French-Fitted Compartment

STEP 1: OUTLINE THE TOOL BOARD

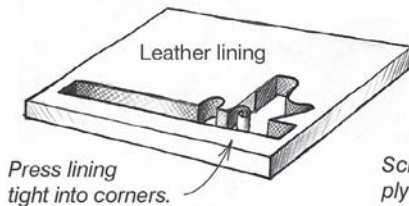
Outline of tool plus a fraction for material lining



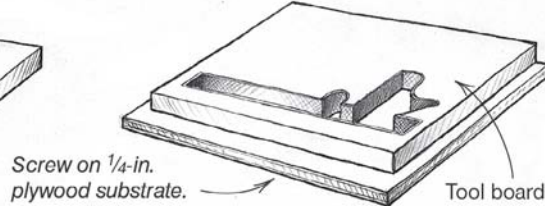
STEP 2: CUT TO INSIDE OF OUTLINE



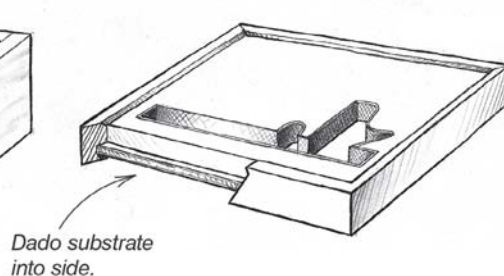
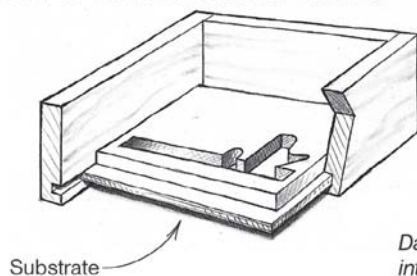
STEP 3: ADD THE LINING



STEP 4: ADD THE SUBSTRATE



STEP 5: CREATE A DRAWER OR TRAY



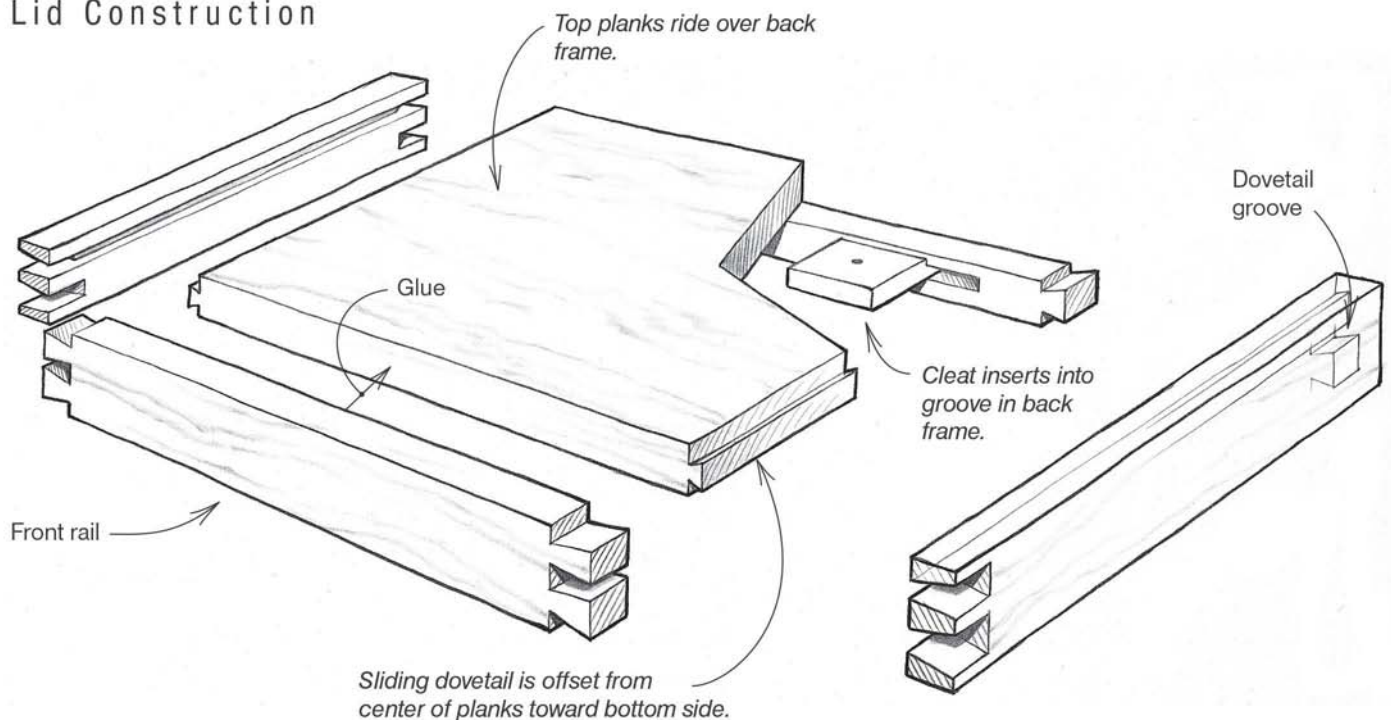
Making up the top lid

Build the top lid much like a drawer by dovetailing the box-like sides around the floating panel forming the lid. To allow the panel to shrink and expand without splitting or distorting the structure, join it to the side rails with full-length sliding dovetails. Glue the panel to the front rail and screw it to the back rail through a tongued cleat. This cleat holds the panel down to the rail but allows the former to move back and forth.

Begin work on the lid by edge-gluing the panel stock to the necessary width and then cutting it to exact length. Next, using a dovetail plane designed specifically for this purpose, plane the full-length tail along either end. Unfortunately, these specialised planes are becoming hard to find, though they are still manufactured in Germany. Antique dealers may have old ones while some mail-order sources of new tools may still carry them in stock.

To cut the matching groove in the side rails, plough a dado, then undercut the sides with a side rabbet plane, eyeballing the dovetail angle. Note in the drawing above that the tail is offset toward the bottom of the panel, which ensures that the top of the rail above the groove will not be too weak. After cutting the pins in the ends of the side rails, wax the groove, slide the rails in place, and then mark for the tails on the front rail. With these cut and tested for fit, glue them to the side rails and to the front edge of the panel. With the lid assembled, measure for and build the frame-and-panel inner lid/door and the spacers for attaching it to the lid. Join the frame with haunched mortises, and float the panel in a groove ploughed in the frame.

Lid Construction





PHOTOGRAPH BY WINCENT LAWRENCE

Built by a ship's carpenter in the middle of the 19th century, this chest is unusual in that the saw till acts as a second lid. Though this arrangement adds considerable weight, the saws are safely enclosed behind a drop-down front. Chest courtesy of Leonard Langevin

Hanging the lid

With the lid fully assembled, chisel the hinge mortises into the inside edge of the back frame and install the hinges. Then hold the lid to the chest to mark the hinge locations on the back wall. After chiselling for the hinges on the chest, remove the hinges from the lid – if they are not the loose-pin type – and install them on the chest. Then, propping the chest on your workbench, bring over the lid and screw the hinge leaves to it. Finally, check the operation of the lid to be sure it closes over the chest without rubbing, and that, in the open position, it rests equally on the two back lid supports. Note that these supports hold the lid at an angle 2° past 90° . This prevents the lid from self-closing, and it holds the inner lid in place even if the catches are undone.

To stabilise and add beauty to the wood both inside and out of the box, mix up a batch of beeswax and boiled linseed oil – 2 oz. of beeswax per gal. of oil. Once a day for at least a week brush the mixture generously

onto the wood, rubbing it in briskly with a rag – the more heat generated from rubbing, the greater the sheen. Wipe off the excess with a rag. Finally, install the mortise lock and its striker plate and bolt on two pairs of marine-type bronze handles. Do not use screws – they won't be strong enough. *F&C*



PHOTOGRAPH BY CHRIS WESTER

A Stanley side rabbet plane – No.79 – works a dado into a sliding dovetail groove. Konovaloff eyeballs the angle – a less experienced woodworker could make a cut with the tool held to a guide board

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Veritas Mk.II narrow blade honing guide

Jim Hooker reviews the new version of the Veritas Mk.II honing guide

Photographs by Jim Hooker



The neat new narrow blade carrier on the right alongside the standard carrier with the roller assembly above. Note the curvature of this much used standard clamping bar, the result of the clamping pressure necessary for a secure hold

Back in *F&C* 213 I looked at five different honing guides to assess their strengths and weaknesses. My conclusion was that the Veritas Mk.II had several significant weaknesses but the competition had more. Overall, the Veritas was well made, the most versatile and had the best balance of compromises for a wide range of sharpening tasks. So I was intrigued by the announcement of this new version of the Mk.II and keen to see whether all the weaknesses of the standard jig had been addressed.

Comparison with the original Mk.II

In fact this new version, snappily titled the Veritas Mk.II narrow blade honing guide, is the same as the standard one except for a revised blade carrier. You can buy it as a complete guide or, if you already have a

standard Mk.II, you can buy just the narrow blade carrier for around £40.

So, what's the difference? My major gripes with the original Mk.II are both related to blade clamping. First, the twin clamping screws need more force than most people can exert with their fingers, so pliers are employed, which ruins the knurling making them even harder to tighten adequately. Second, despite the add-on alignment guide which, irritatingly, must be clamped on and then removed for each blade, it is too hard to reliably secure a blade at exactly 90° to the roller. The new blade carrier addresses both of these problems by abandoning the clamping screws and distortion prone clamping bar in favour of a side clamping arrangement intended to ensure that a blade edge is always presented parallel to the roller. The question is, how successful is it at this and are there any drawbacks?

Does it live up to the claims?

Most of the time, it does so very successfully indeed. A knurled nut adjusts a pair of clamping jaws on a shaft with a right-handed thread on one side and left-handed on the other, each controlling one jaw, ensuring that the blade is always central in the jig. More importantly, unless the sides of the blade are exceptionally smooth, blade clamping requires minimal effort for a secure hold, which is automatically at exactly 90° to the roller. With very smooth sided blades it is safer to lock the jaws really tight to prevent the blade sliding in them. This only happened to me with a block plane blade finely ground on all faces – but it is disconcerting and results in a steepened honing angle.

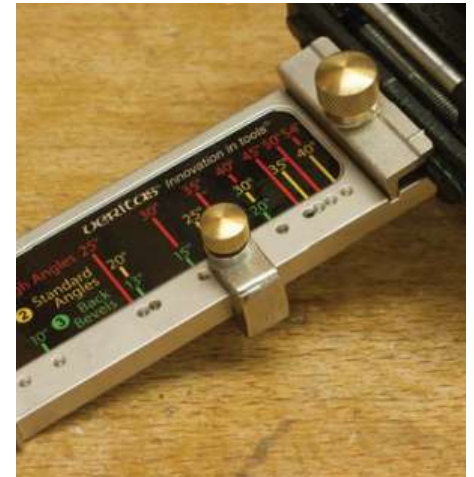
The bad news is that you still have to attach and detach the blade alignment

guide each time, but there is a way round this. Because the jaws keep the blade edge parallel to the roller, the purpose of the alignment guide is normally only to set the blade projection necessary for the desired honing angle. This can be more conveniently done with a simple workshop-made length stop for common honing angles, allowing the alignment guide to be dispensed with.

While this guide is sold as the narrow blade honing guide, blades don't have to be all that narrow. It is claimed to work with blades from 3mm up to 38mm wide but it will cope down to 1.5 mm and 38mm covers all but the widest block plane blades, so it is pretty versatile. But what baffles me is why Veritas didn't increase the width of the blade carrier so that it could accommodate standard bench plane blades and so greatly increase its versatility.



This simple blade projection setting jig can be made from oddments in about 20 minutes ...



... and allows the alignment jig, which must be attached and removed for each blade, to be largely dispensed with

Limitations

Given that there is no such thing as the perfect honing guide, this new version of the Mk.II inevitably has some limitations. The most important is that for the adjustable jaws to work effectively, the blade must have sides that are parallel over a reasonable length. Most of my chisels are Japanese with a parallel length of about 50mm. With these, the guide worked extremely well – even coping with one which is only 1.5mm wide – a stern test for any honing guide simply because the chisel's reference face is so narrow. It also took the triangular cross section of Japanese dovetail chisels in its stride. However, when tried with a Veritas DX/NX block plane blade, I found that while it would hold the blade square when set at 30°, it would not do so reliably at 25°. This is because the parallel section of the blade

is only about 35mm long and the lower angle requires more blade projection, thus throwing the jaws onto the non-parallel section of the blade. This seems like a real own goal on the part of Veritas because its PMVII steel can easily cope with a 25° honing angle and there is no obvious reason why these blades could not be made with a longer parallel section.

The other significant limitation is fundamental to the side clamping design which precludes its use with non-parallel sided blades such as fishtails and some early English chisels, and others where the cutting edge is not at 90° to the sides such as skews, all of which the standard Mk.II can handle. Both blade carriers allow you to produce cambered edges – with the aid of a cambered roller – micro bevels and back bevels if those things are important to you.



The rounded bottom corners of the jaws effectively clamp bevel edge or triangular section chisels ...



... while the almost parallel upper section is good for rectangular section blades like this 1.5mm Japanese chisel. With a chisel this narrow care must be taken to ensure it is clamped square in the guide

Should I buy one?

If you already have a standard Mk.II, I have no hesitation in recommending that you buy the narrow blade carrier. Swapping carriers takes only a few seconds and my bet is that you will use the narrow one much more than the standard one because it is so much more user-friendly. Make a simple blade projection jig and that irritating blade setting attachment will also be largely redundant.

If you don't already have a standard Mk.II it may boil down to cost. If you want the versatility of the standard blade carrier and the convenience of the narrow one, your best bet may be the Deluxe set, which will get you both blade carriers, standard and cambered rollers and the skew setting jig for around £110. If you don't need the extras, the standard set plus the narrow carrier can be yours for under £90. *F&C*



A Veritas DX/NX block plane blade automatically clamps square at 30° because there is sufficient length of parallel blade but at 25° the blade all too often ends up out of square because the extra blade projection needed throws the jaws almost completely onto the non-parallel part of the blade sides

F&C verdict

Pros

- The most versatile, user-friendly guide out there just got even better

Cons

- High price
- It could so easily have been even better still

Prices

Veritas Mk.II narrow blade honing guide set – £75

Mk.II narrow blade carrier – £39.95

Mk.II deluxe honing guide set – £110

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Gang cutting – the good, the bad and the ugly

Want to run with the pack or join a gang?

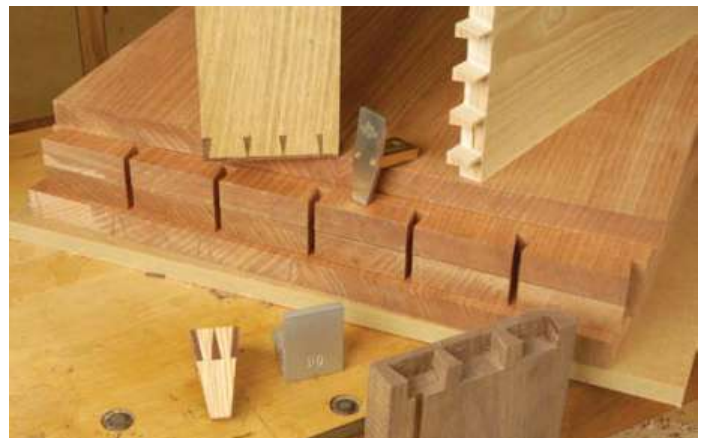
Derek Jones offers a few words of wisdom to keep you on the straight and narrow



PHOTOGRAPHS BY GANDRECK JONES

I'm all for techniques that save me time, especially ones that do not require me to drastically alter my regular pattern or work flow. In a majority of cases, one-offs or small batch production runs account for most of our output. Good technique in this instance can easily compete with mechanised production in both speed and accuracy and though there will often be an element of repetition in our methods, if all we're going to shave off is a few minutes here and there, where's the attraction? Making small adjustments to your dovetailing spacing for example is much easier when you are working by hand. This can't always be said if you're jiggling up to cut them with a router.

It's arguably joint cutting that accounts for the lion's share of labour in a workshop where hand tools feature heavily. Notwithstanding heavy machinery like tablesaws and planers, they are the tools that contribute the most to the bespoke maker. So it's a smarter way of working rather than short cuts that will reap the most reward.



Basically the same joint but different and all cut with the same tool

Added value

My preferred method for dovetailing is quite simple. I made a decision some time ago not to pursue the machined method of dovetailing for the simple reason it just wasn't cost effective. The tooling, the space to carry out the process and the setup time were all factors and could all be countered by developing a technique that would last a lifetime, be infinitely variable and, perhaps more importantly, add value to my work. Now if you believe in the 10,000-hour rule about being the best in the world at what you do, go ahead.

Knock yourself out and practise your dovetailing nonstop for the next year and a bit but I guarantee you'll get as good as you need to be after the first few days. That's just 48 hours total if you do it in one go, or you could just practise a few hours for the next couple of weekends. There's no catch here as long as you know what you're trying to achieve; a good solid technique that you can rely on without having to think too much about it, i.e. something that feels as natural as breathing.

Double time

The technique known as gang cutting or stacking is one that can shave time off your dovetailing. It involves holding two or more boards in tandem to make identical cuts in all boards with a single cut. An example might be a pair of drawer sides or carcass sides. It's not without its quirks though; firstly you have to be sure that your components are in fact identical. Drawer sides for example are likely to be a mirror image of one another so, strictly speaking, only identical when their face sides are facing outwards. Gang cutting requires you to orientate the components in your stack the right way round. Invariably the tools we

use will have as much effect on the outcome of a process as the process itself and when it comes to gang cutting your choice of saw is important.

Let's assume you have a dedicated dovetail saw, one that's filed with a rip tooth pattern, 14tpi or higher and with minimum set. Let's also assume that it's sharp and you are a dab hand at using it. Before considering gang cutting, take a few test cuts in a scrap of the material you intend to use and check the exit side of the cut. If a ribbon like thread of waste appears or the edges of the kerf are jagged you may want

to pass on gang cutting with this setup altogether. Don't be too disappointed if there is, it could just be the nature of the material and not a fault with you or the saw.

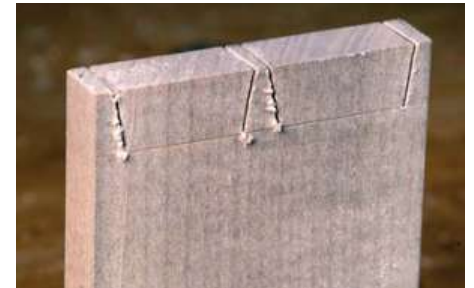
When cutting single components this wouldn't necessarily be a problem as the exit side of the board is likely to be concealed when the joint is assembled. Typically, when you gang cut you will place the boards with their inside faces facing inwards making the exit side of the pack a face edge. Splintering, tearout and jagged edges, should they occur will affect the appearance of your tail boards and take more time to tidy up.



This 14tpi dovetail saw leaves a clean kerf on the exit side of this stack of mahogany making it suitable for gang cutting



Timbers behave differently. The same 14tpi dovetail saw has a clean kerf on the face side of the board...



...but a ragged edge on the exit side of this board of sycamore suggesting it's less suitable for gang cutting pairs of drawer sides

Tools for the job

When I mentioned finding a system that works for you, it includes choosing the right tool. And by the way I'm not suggesting that there is a wrong tool just as long as it performs within the accepted parameters of this technique. Read into this that Japanese saws are likely to perform similarly. Not better or worse, just similarly. I happen to have a range of saws for cutting dovetails and I alternate between them all depending on the scale of the work; an ultra thin Dozuki for fine work and a hybrid tenon saw for large case

work. But what I look for is not just the size of the joint but how the saw will behave.

A thin saw plate for example will heat up a lot quicker than a thicker one and therefore expand in the kerf. The effect of slowing down the rate of cut encourages me to apply more force and run the risk of introducing errors. A thicker plate on the other hand may have fewer teeth and possibly result in a jagged edge to the kerf but it will track a straight line without too much effort. This is my preferred option for gang cutting.



Just a selection of the saws that regularly get used at my bench for dovetailing

Long in the tooth

One of the things I find most irritating about pull saws is their habit of producing those ribbon like threads I mentioned earlier on the face side of a cut right down to the baseline. I have spoiled more tail boards using Japanese saws than Western saws. The proportionately longer teeth also creep up to the base line quicker than I'm used to often catching me out, especially if I'm using softwood.



A 20 tpi dovetail saw cuts smoothly on thin stock with a clean face edge kerf on sycamore



The exit kerf, however, is far from perfect with the threads concealing the lines

That bit in the middle

There is a tendency when cutting tail boards in thick stock to arc the bottom of the kerf. You will be where you want to be with regards to the base line on both faces but high in the middle. It's not easy to eliminate this, in fact the best you can do is learn to minimise it. The same applies when gang cutting but rather than dealing with it later when you remove the waste between the tails you may have to tackle it beforehand and take those first cuts a little closer to the baseline. Suddenly gang cutting doesn't look like much of a time saver.



That bit in the middle is hard to avoid. The cuts are some way cleaner at the baseline



Save time on spacing for pins by marking up just one board

Conclusion

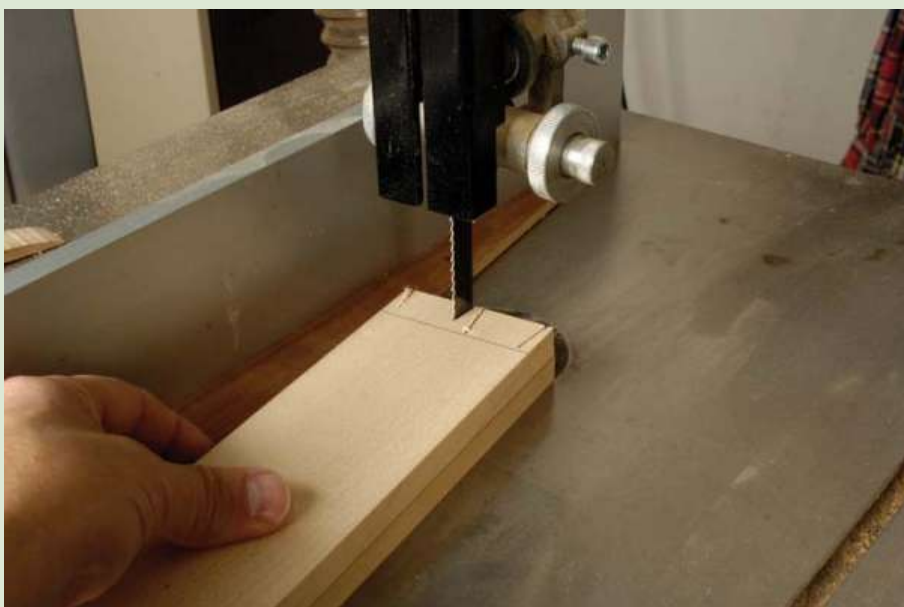
So, where can you gain an edge gang cutting? Setting out the spacing of your pins for a start. I'll typically clamp the boards in a pack and mark one board only, then transfer the lines across the top of the whole stack and only down the face of the front board. I've also noticed that I find it a lot easier tracking a saw along end grain when there's more material to work with and a longer line to reference. Those first few strokes are crucial to achieving good pins so the more help I get the better. Accuracy and speed are just part of an overall drive for efficiency and a smarter way of working. Bigger pieces are more likely to sustain knocks and dents while they're being manoeuvred around the 'shop so reducing the number of times I have to handle them has to be a good thing.

Gang cutting bandsaw-style

It would be unfair to write off machines altogether when you need to cut a series of identical joints. The founding editor of *F&C*, Paul Richardson frequently cut the tails on packs of identical drawer sides on a bandsaw. This wasn't restricted to just pairs but pairs of pairs as well. We've covered this technique on more than one occasion in *F&C* and each time using what we might now consider a rather crude style blade. More widely available now are tungsten carbide tipped blades where each tooth is precision ground resulting in a cleaner kerf making this a far more attractive proposition.

For tail boards prepare a wedge shaped packer to the angle of your dovetail 1:6, 1: 7, 1:8 etc. and place it alongside your fence. With the fence locked in position just slide the wedge forwards to shift the pack across the table top for the next cut. Use a little bit of double-sided tape to hold the pack together and carry out all the cuts you need for each setting before moving onto the next one.

If tearout on the exit side of the cut is proving to be a problem place a sacrificial board on the bottom of the pack or directly onto the table top.



Gang cutting machine-style

To cut your pins on the bandsaw, dispense with the tapered fence packer and tilt the table to the desired angle. Once again make all the cuts you need on each setting before re-setting the fence and moving on to the next cut. In truth

this takes longer to describe than actually do, but it's still only a time saver if you have a lot of components to cut. In my experience with this technique speed comes at a price. Nearly every mating edge will require some fine adjustment. *F&C*



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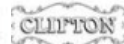


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Our correspondent...



PHOTOGRAPHS BY ANTON GERNER

The rough guide to a smooth finish with Osmo

Anton Gerner shares his approach to getting the most out of everyone's favourite finish

Over the years I have tried many commercial and homemade oil blends for finishing, but none has been as successful as Osmo. Designed as a floor oil, Osmo is a durable finish that is made in Germany and has been around for over 40

years. It's an environmentally friendly product, which is made from a blend of natural oils and waxes such as sunflower oil, linseed oil, carnauba wax and candelilla wax.

I have been using Osmo for three years now and over that period of time I have

developed a method of application that works very efficiently for me and achieves good results every time. There is a huge range of Osmo products available; including clears and stains, but for my general work I just use the Polyx-Oil Satin 3032.

F&C has acquired readers from all four points on the compass over the years and since going digital in 2013, that trend has increased. You can find us anywhere in the world with a link to the web. As the content of the magazine is a true reflection of our readership, we've decided to

bring you articles that will take you on a workshop tour of the globe. If you have a technique or story that you'd like to share with the wider woodworking community then drop us a line. Our reporter this month is Australian fine furniture maker Anton Gerner. We featured Anton in

F&C 236 and have kept in touch ever since. Fiendishly efficient and faultless in his application his work is constantly in demand. We managed to collar this mastercraftsman for a while and talk finishes. Here's what he had to say about everyone's favourite finish.

First steps

The first step to successful application is the preparation of your surface. Osmo recommend not to sand too fine, as this closes the pores of the timber, which reduces the penetration of the oil. I believe they are right and for my Osmo finishes I sand no finer than 180 grit. In furniture making terms this is still considered quite coarse, but trust me, you won't see the scratches when the finish is complete. I use Festool random orbit sanders on large flat areas and hand sand rails and

edges. What you are after is a consistent 180 grit scratch pattern.

After sanding it's very important to completely dust your surface off. I normally use an air gun to blow the dust from the grain, which allows for the oil to soak in much better.

When you first open a can of Osmo you will notice how thick the oil is. It has a lot of solids in it and requires thorough mixing. I use a 20mm wide flat aluminium stick for mixing, that I simply wipe clean when done.



Stir well and stir often to release the solids

Application

My preferred method of application is with a good quality 100mm microfibre roller. Osmo make good ones that don't leave fibre in the finish. Brushes can also be used, but the roller is a lot faster.

To apply Osmo, I basically roll in every direction, spreading the oil around until no more comes off the roller before I recharge it. Once the surface has a light coat, I then go back over the surface with the roller again (without applying more oil), rolling in one direction with the grain. Some rollers have a nap to them, so I only roll in one direction the length of the panel and then lift up the roller and repeat. The key to achieving a good result is to apply as little as possible and I believe an important part of this first coat is to work the oil into the grain.

Once this first coat has been applied, I set the work aside to dry for 24 hours in an area that has some air movement. Don't be too concerned about dust or trying to achieve a perfect finish off the roller, as this first coat is just about getting it on.



Apply the Osmo with a roller in all directions



When the surface is covered straighten the oil out

Finishing

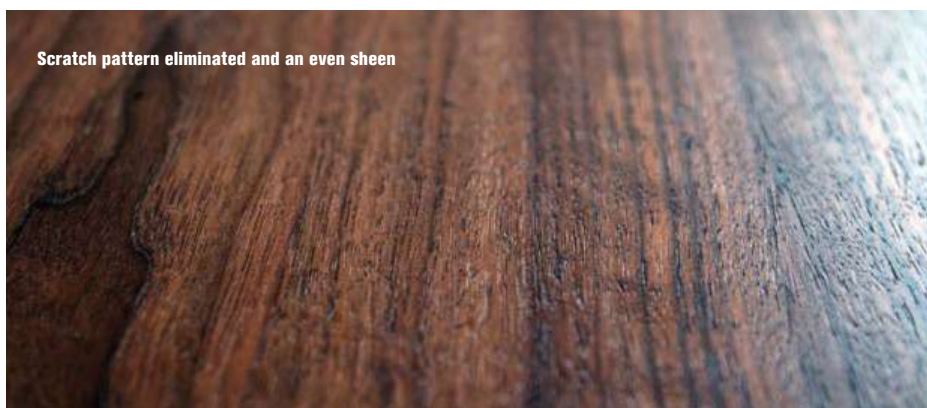
When dry, you will notice that the surface will be quite furry, with the grain having risen up a lot. I now hand sand this back using foam backed 400 grid pads (such as those made by 3M or Hermes) in the direction of the grain. I find these pads clog less than standard sandpaper when sanding back oil. You will easily be able to tell where you have sanded, as the sanded area will now be ultra smooth. This is what you are after. The first coat will also have filled some of the 180 grit sanding scratches.

Next, dust off the surface again and then roll on another coat as before. This coat will go on much easier than the first, as the surface is already sealed. You will also use about half as much oil. Before this coat dries and within 20 minutes, (or less in hot weather) wipe this coat off using a lint free soft cloth. Keep wiping until you have removed all wet oil and the surface looks even. Once dry, repeat this step, but without the sanding between coats. Normally I find just the three coats are enough, however on some softer woods a fourth coat is required.

That's it! This is such a simple system that I find always yields good results. I hope you try this out and can enjoy using Osmo too.



Cut back, re-coat thinly and wipe off the excess



Scratch pattern eliminated and an even sheen

Contact: Osmo **Web:** www.osmouk.com

Block plane and simple

Anne Briggs Bohnett takes a look at one of the most necessary and valuable tools in every woodworker's toolkit – the block plane, a workhorse for truing end grain, levelling joints, breaking edges and countless other tasks around the 'shop

A bevel up block plane with an adjustable mouth should be one of your first hand tool purchases. They are fantastic at cleaning up end grain, touching up joinery, easing edges, creating quick chamfers, the list goes on and on. In a pinch, when they are your closest sharp blade, they can be used as tiny shooting planes on a bench hook, to hog away material, or to smooth up a small surface. Block planes can be bought new or old. I have several versions of vintage Stanley No.60 1/2s, but I quite prefer the newly produced Veritas and Lie-Nielsen bevel up block planes.



Block planes come in all shapes and sizes

If your bench top is flat turn your bench hook into a makeshift shooting station

Bevel up block planes



The block planes secret weapon is an adjustable mouth

Though there are standard angle block planes available, you will get the most out of a bevel up block plane with a moveable mouth – adjustable with a quick turn of the front screw. You can open the mouth and advance the blade to hog out a bunch of material quickly, or, conversely, you can close the mouth tightly to take a nice thin shaving. Experiment opening and closing the mouth of the plane to familiarise yourself with the differences in plane behaviour with an open and closed mouth. When thin, gossamer shavings are required, the blade should be protruding only ever so slightly and the mouth should be closed so only a sliver of light pokes through. When planing a chamfer, the mouth can be opened wider and the blade advanced further to make quick work of it.

The one drawback of bevel up planes is the greater probability of tearout, which is when the wood is pulled up in small chunks by the plane blade instead of being sliced cleanly off. The lower cutting angle of bevel up planes as opposed to standard angle planes increases the possibility of tearout. The block plane, however, isn't meant to be a finishing tool, so tearout shouldn't be a big concern. Regardless, tearout can be all but eliminated with a freshly sharpened blade and a tightly closed mouth and that is where the moveable mouth on both the bevel up block and bevel up jack plane come in very handy.

Bevel up block planes

Unlike so many of its hand tool relatives, the block plane doesn't really have a prescribed skill set required for its use. It can be pulled, pushed, used one handed or two. Its small size and few moveable parts make for a fairly easy set up and use. With a nice sharp blade, the mouth can be opened or closed relative to the size of shaving you want to take. Though some block planes come with lateral adjusters, I've found the most effective way of adjusting the blade laterally is with a few light taps of a plane hammer. Lateral adjusters, especially on vintage planes, usually have quite a bit of slop and only make fairly crude adjustments. The benefit of using a hammer is that you can roughly set the plane, then tighten the blade down and make final lateral adjustments with a plane hammer. The tightened blade will hold your adjustments right where you want them.



Some are small enough for one handed use...



... while others pass for a small bench plane



Find a grip that suits the application



Make minute adjustments to the blade with a plane hamer



The wide sole makes it an excellent chamfering tool ➤

Clean up end grain with a block plane

Cleaning up the end grain on dovetails is the application for which I most use my block plane. I use a glue brush for a light application of rubbing alcohol to the end grain which softens the wood fibres prior to planing. Alcohol is used in favour of water for this, as it quickly evaporates and is far less likely to cause long-term rust problems in your plane, especially if you, using proper plane maintenance, blow out all the shavings from your plane and wipe down all the metal components of your plane with a dust cloth and the protective oil of your choice when you are finished using the plane.

After letting the alcohol absorb into the end grain fibres for a few moments, use your block plane to level the joint. To avoid splashing, or the breakout of fibres ahead of the plane on the edges, plane from the edge in toward the middle of the board on each of the four corners of your project.



Brush alcohol on the endgrain to soften the fibres



Plane in from all three edges to avoid breakout

Community Tool Chest

Support for and donations to the Community Tool Chest have continued to grow these past few months and I have been floored by the generosity of boutique tool makers and hand tool enthusiasts alike as the momentum has built. The Community Tool Chest currently has two block planes in it, both donated by hand tool users who had quality duplicates they wanted to see go to good homes.

The first block plane was actually one of the first donations I received on behalf of the CTC and was donated by Todd Nebel, an incredibly talented hand tool woodworker I first met on Instagram two years ago, then met in person at Woodworking In America 2014. Our friendship was solidified during his surprise appearance at Handworks 2015. Todd is an absolute treasure of a person, and has provided me with countless valuable tips and advice on various CTC teaching projects. Along with the rest of the Instagram woodworking world, I have really loved watching him build up his hand tool skill set as he furnishes and restores his

1960s rambler home. He also continues to build an amazing collection of vintage tools purchased at his numerous local flea markets and auctions.

The second block plane in the CTC was donated by Greg Berber, another friend I met earlier this year on Instagram. Professing his guilt about buying and hoarding several duplicate tools both new and used, Greg contacted me a few months back and asked which tools were missing to create a full woodworking set in the CTC. Expecting him only to send one or two items from the list, I was absolutely floored when a 13kg package arrived addressed to the CTC. Inside was every item on the list – vintage chisels and saws he'd restored and sharpened, a few hand planes, a Knew Concepts fretsaw, a set of waterstones, marking instruments and other odds and ends he later told me he was excited would find new homes where they would actually be used.

One of my favourite things about my year long stewardship of the tools donated to the CTC is the story and the relationship

attached to each tool. Knowing these two tools come from such talented woodworkers is an inspiration and a challenge each time I pick them up, to broaden my own skill set and share that knowledge with others. The end goal for these planes and other tools in the CTC is to get them into the hands of other woodworkers in my local community, and, in a year, to find great new homes for them with new users who will 'pay it forward' in the woodworking world in their own way.



Block planes in the CTC

Block plane practice

To practise using your block plane, try making a pair of chopsticks. The design, dimensions, wood choice, and method of approach are all totally arbitrary. It will be helpful to find an 'example set' of chopsticks to try to copy. I have found a lot of success using 255 x 6 x 6mm square stock. Use your marking gauge to find the centre and to mark a + around the four edges. Practise different settings with your mouth opening and blade advancement as you introduce chamfers and taper. To introduce taper, start with small strokes at the end, then bring your plane further and further back on the stick with each pass. Count the number of plane strokes you make on each edge so you can introduce an even taper and chamfer. Have fun with this project and use it to learn about your block plane. If you start and end with two sticks, they will function just fine as chopsticks, so you can make them as fancy or as simple as you'd like. *F&C*



Chopsticks: a great workout for your block plane



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Rosewood chiffonier side cabinet – part 1

The Editor and Mark Baker start their restoration
on this rosewood chiffonier side cabinet



PHOTOGRAPHS BY GUY/DEEK JONES

Old habits die hard' they say and I'm a sucker for a good antique furniture auction. We're lucky to have a couple of salesrooms in town with at least one of them opening their doors every week. Where all the stock comes from is a complete mystery to me, but regular as clockwork, hundreds of lots go under the hammer for prices that wouldn't cover the material costs if you wanted to make them. That's assuming you can get the material at all.

I couldn't resist this little rosewood (*Dalbergia latifolia*) chiffonier side cabinet. Veneer like this is so hard to come by and, perhaps you have to be a little nerdy to warm to such a simple piece, but the salesroom wasn't exactly on fire with heavyweight bidders. So, for £80 I bought myself a project.

Unless there's a real provenance available, salesrooms are usually very vague about dating period pieces. Sometimes the only guidance you'll get is '19th-century' or 'Victorian' on the label. This lot was listed as the former. It's a fair description considering the condition. It has been tinkered around with before so some of the things, like locks and catches that could be helpful in dating it, might not be original so it's unwise to put too much emphasis on them. The turned feet are original features, but the fabric on the door panels are a later addition, so there's not a lot to go on.

Design background

Cabinets like this were popular from the Regency period (1811–1820) right through

to the tail end of Victoria's reign in 1901, although mahogany (*Khaya ivorensis*) would most likely have been the timber of choice at that time. Putting a date on items like this isn't an exact science. My gut feeling is that we can rule out the Regency and even William IV (1830–1837) periods as it's a little on the plain side; there's no gilt work or inlaid brass and no other detail apart from some raised cross-banding on the drawers. I'd be comfortable putting it somewhere between 1850 and 1875. Over the next few issues I'm going to give this piece a bit of a makeover with a view to putting it back on the market for someone else to enjoy for another hundred years or more.

Scope of works

- Replace missing and broken knobs
- Repair drawer runners
- Secure feet
- Adjust door alignment
- Replace door panels
- Clean and polish

Timber selection

The first job on the list involved replacing three broken drawer knobs. The originals are rosewood and we didn't have a direct equivalent. Indeed some rosewoods now are not available commercially so one might not always be able to replace like with like. The other issue is that rosewoods vary considerably, so a relative of the rosewood used for the knobs – exact rosewood unknown – might not match well. We looked at a few examples we have in the workshop and the mismatch was very clear to see. So, various species of timber were selected for being close in appearance to the original rosewood. Since the knobs are to be turned as a spindle project – the grain running parallel to the bed bars of the lathe – like chair and table legs, the end grain of each section of wood was the most important face. Each sample was sanded and treated with shellac button polish to assess its suitability.

The selection of timber was whittled down to three: Tamboti (*Spirostachys Africana*), Mopane (*Colophospermum mopane*) and Peroba roasa (*Aspidosperma peroba*). You can see from the image that there are similarities in each, but nothing matches exactly. The most important factor at this stage is that with a coat of shellac the sample was a shade lighter than the original rosewood so easy to correct. Mopane seemed to be the closest in looks, although it is a much denser timber.



Assessing the damage

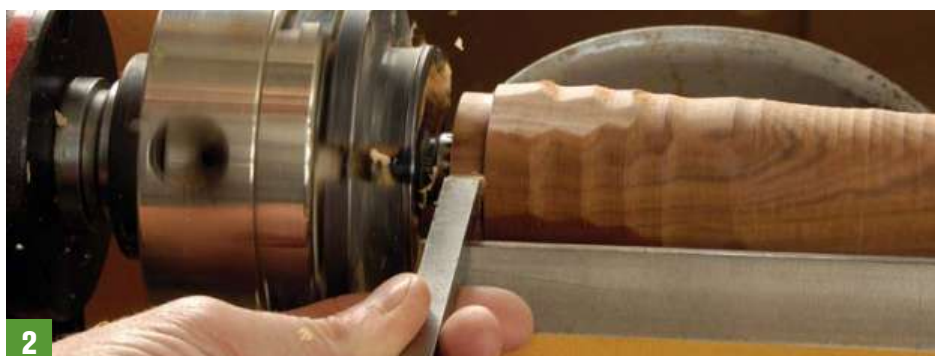
Here is one of the damaged knobs. The threaded back has had string wound around it to pack the thread out a bit and hold it firm in the drawer front. The raised plinth back support – often called a rose – has broken. This area is prone to snapping due to the

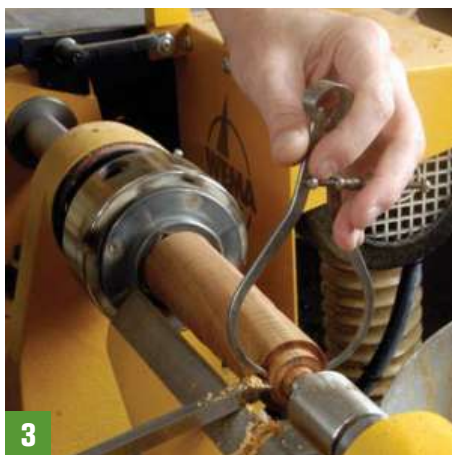
short end grain making it weak. That said, if it is properly secure and not subject to wobbling in any way it will be OK, just don't make this section too thin if you make your own. There is a trade off of course, make it too thick and the back section/rose will look crude and chunky.

The process

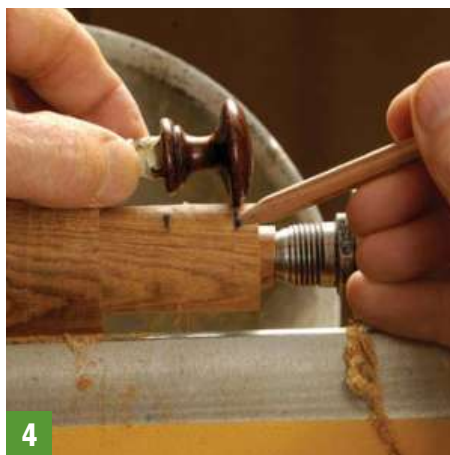
1 Having selected the timber, the piece was mounted between centres and a spindle roughing gouge was used to turn the blank down to a roughly-shaped cylinder. Refinement occurs later on. It is worth noting, the length of the wood should not be too long due to the need to shape the knobs effectively. By that, I mean that we will at some stage, have to fit this into a chuck to hold it securely one end and the tailstock can be used to support the wood for most of the turning. But to turn the front of the knob effectively, tailstock support has to be removed. If the spindle is too long and/or thin, you cannot have too long a length being turned at any one time. There is enough for four knobs in this section, so one spare if something goes belly up.

2 A beading and parting tool was used to cut a spigot on one end of the cylinder to suit the chuck jaws and then we used the spindle roughing gouge to create a nice uniformly shaped cylinder. Once complete, the lathe was stopped and...





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3 ... we mounted the wood in the chuck, brought up the tailstock and used callipers set to just wider than the width of the grip section of the knob and used the beading and parting tool to reduce the diameter. We created a cylinder this diameter longer in length than the length of the knob we are making.

4 We then marked the positions of the relevant main parts of the knob and used a combination of callipers and ruler to get the positions right and then...

5... used a combination of callipers and a beading and parting tool to get the diameters right in the main part of the knob – just over by 1mm in size, so we can adjust/sand it later. However, the round tenon of the knob could not be taken down to final width because when we come to remove the tailstock support at the front of the knob, we will not have enough support to prevent flexing and wobble during the cut.

6 We made sure to constantly check with the broken knob to ensure we were correctly aligning the main parts. A thin parting tool was useful to cut and mark positions.

7 At this point, I left the back end/rose section larger than required. The reason being was that I needed to cut a cove inner section. It is deep and a mistake can happen. If the rose section – which was quite thin – was cut to depth and width now and I slipped with a blade cutting the cove, it may well have broken something important. This was so it could not do that and we can refine the rose later. Either a spindle gouge or scraper was used for cutting the cove.

8 Mopane is dense and heavy and a scraper can cut it effectively. When using a scraper remember to always have the blade trailing downwards and the cutting edge horizontal or rotated down on the side of the blade cutting the wood. If you rotate the blade so the cutting edge points up into the oncoming wood you will get a catch. Remember always to cut the grain downhill – from largest diameter to smallest to ensure cutting with the grain. I knew that the initial cut of the scraper would mean two sections of the blade were cutting – both left and right side, but this was only for a very short while. Ideally, only one small part of the cutting blade should be in contact with the wood at any one time to minimise the risk of a catch.

9 When using a spindle gouge and when you rotate the blade in such a way that the flute always points in the direction of travel, the cut occurs on the lower wing of the blade.

10 Once we had the rough shape of the coved section, we cross-checked the finished diameter required with callipers and then...

11 ... refined the shape turned accordingly.

12 Making gentle cuts from either side down to the middle helped refine the shape until we got the shape and depth we required. It is worth noting, the calliper tips are rounded off so they cannot catch when run against the revolving timber.

13 Once again, we checked everything is where it should be.

14 Now we needed to adjust the width of what would be the little fillet detail on the rose – a thin parting tool made light work of this.

15 Next, we adjusted the diameter of the widest back part of the rose and used the beading and parting tool on its side, cutting as a scraper to form the partial bead. It was a half-bead form being cut to replicate the shape of the original.

16 We now checked our results against the original. In this case, the curve under the button/holding section was not quite right so it was adjusted to match the original.

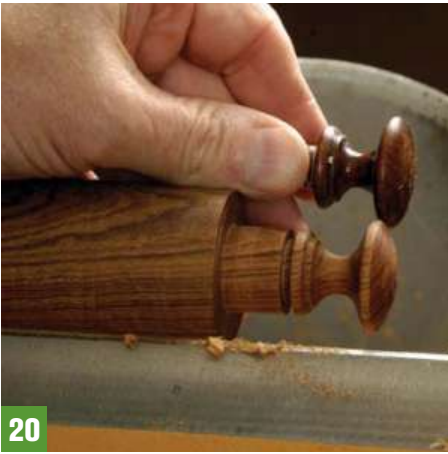
17 The fillet section was slightly wide so again, an adjustment was made.

18 The beading and parting tool was used to rough shape the front of the button, cutting occurred at the tip and on the left-hand side of the cutting edge. We stopped just short of the revolving tailstock. Then...

19... removed the tailstock and refined the top.

“Perhaps you have to be a little nerdy to warm to such a simple piece”





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20 Once completed, we checked everything again and adjusted as required...

21 ... then sanded the knob to a fine grit grade.

22 The tenon was left plain due to the threaded section in the drawer having been stripped out. The hole was bored for a plain tenon instead – the external bore of the threaded hole was 13mm. Using drill bits to gauge was an accurate way of finding this out.

23 Now the tenon size was known, we sized it accordingly with callipers and a beading and parting tool, then parted it off with a thin parting tool. Then, we just had to make two more to match.



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24 Applying stain to what is effectively end grain timber was likely to turn it very dark. So to get some of the colour without the intensity we brushed a coat of shellac on beforehand.

Polishing to match

25 There's little doubt that the finish is shellac, so we used basic French polishing techniques to match the new parts. We would have been lucky to have a dye that was exactly what we needed for the repair – the red in this instance was Mylands mahogany C204.

26 To create the correct colour, we dissolved a pinch of each dye powder in methylated spirits in separate pots.

27 Next, we added small quantities of the dye to the shellac to tint it, applying thin coats with a soft mop brush. The grain character will remain while the overall shade will begin to change.

28 Once satisfied with the colour, we stopped, even though the grain was not as full as the original piece. We will keep the leftover tinted polish for the duration of the project – but swapping to a clear or pale polish to tie everything in later when all the repairs have been carried out. *F&C*



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Next Month

The next task on our list will be to repair the existing drawer runners.

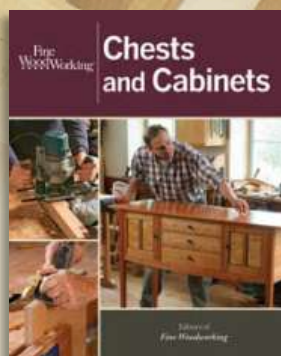
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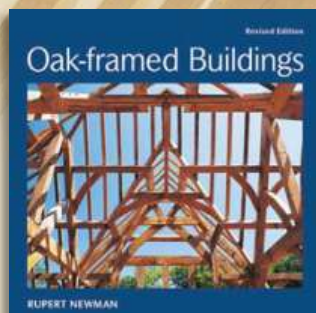
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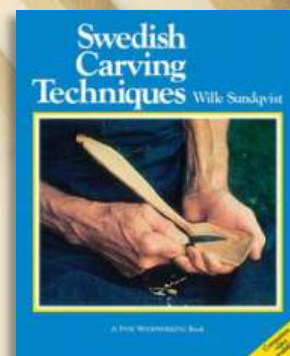
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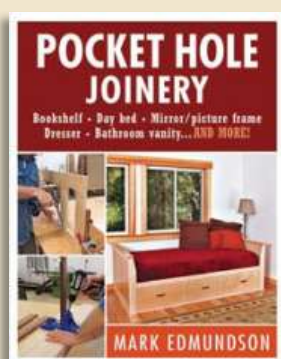
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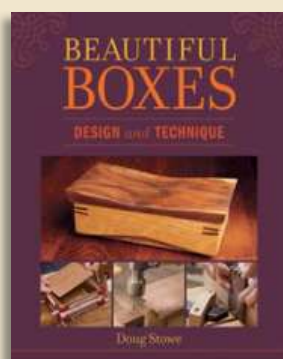
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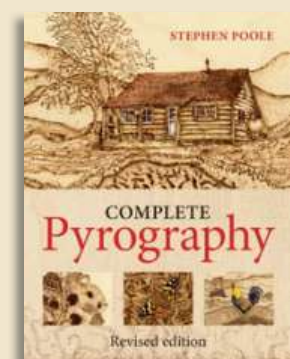
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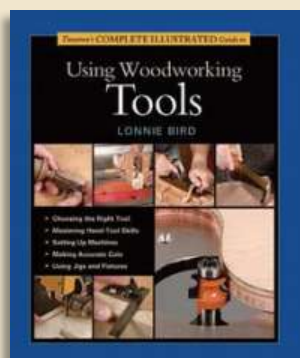
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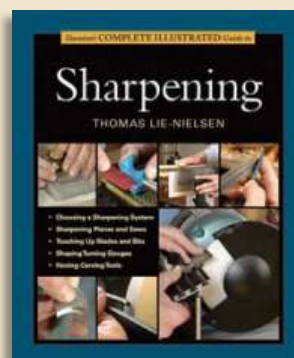
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Complementary skills

Danny Maddock tries his hand at the craft of cutlery with a kit from Workshop Heaven

Every now and then a project comes along that seemingly bears little or no relation to the way we generally go about our business. For centuries, pockets of industrialised Britain have been centres of excellence for knife making; Sheffield and Birmingham are ones that immediately spring to mind. And though you may not associate the art of the cutler with fine furniture making, there are some fascinating examples where our worlds collide. Stepping into another craftsman's shoes every so often is a great way to expand your skill set and become a more rounded craftsman.

In case it's escaped your attention there's a huge resurgence in outdoor woodworking going on at the moment. You only have to look at the range of tools now available from the online retailers that until recently have catered for more workshop based activities. As interesting as they are, I doubt many would see much action on my bench but that doesn't mean I can't gain something from learning how they are used or in this case, how they are made.

I recently purchased a knife blade from Workshop Heaven. Personally I have no need for a hunting knife, especially in the workshop – or outside come to think of it – but there was something about the idea of this as a project that reeled me in. There are a couple of blade blanks to choose from on the website and I guess if I had a specific purpose in mind I might have been more

picky. To complete the kit I sourced a book-matched pair of olive (*Olea europaea*) wood blanks for the handle and something I'd never heard of before to fasten them to the blade; Loveless bolts.

Materials

The knife arrived absolutely razor sharp, which is uncommon with most of the tools I buy new. Chisels and plane blades invariably

need flattening and sharpening before they can be used. I chose the ready cut olive wood blanks because I have not worked with olive before, but you could just as easily find something suitable in the offcuts pile in your workshop.

The Loveless bolts are a fixing designed by Bob Loveless purely for the purpose of joining knife handles. They're a cross between a pined rivet and a through bolt. All the components for the kit were of a high quality.



Components bought from Workshop Heaven

Preparation

First things first, like with any project, I started by planing the wood flat and square on four sides. The wood will be joined to a flat blade and as we know a surface that isn't flat will be a weak joint and show thick glue lines. Flattening the wood on all sides meant that when I came to mark out and drill the holes on the pillar drill, they would be square. Even though the external faces will be rounded off the straight sides are a reliable reference edge for transferring marking lines.

I used double-sided tape and stuck the

two sides together so I could draw around the blade and give myself a line to cut to on the bandsaw. After cutting out the rough shape – be sure to stay at least 0.5-1mm away from the line – I marked out where the holes for the bolts will go and drilled them on a pillar drill. I tested the drill bit size on a piece of scrap wood first so I knew the bolt would fit snugly. The Loveless bolts are a precision fixing within $\pm 0.02\text{mm}$ so you can work to extremely high tolerances. After drilling the holes I left them stuck together and began shaping.



Use a block plane to flatten and square the blanks



Use double-sided tape to hold the two pieces together



Draw around the knife



I used a Veritas centre punch to mark the holes



Drill the holes on the pillar drill

Shaping

Before doing anything with the components I bought, I started to play around with different shapes for the handle. I found some maple (*Acer campestre*) offcuts and shaped them until I achieved a comfortable and aesthetically pleasing handle shape. There's not too much scope for design here, the outline is dictated by the shape of the blade handle as the wood must be shaped to fit flush, but it is important to know where you are heading with it before you start shaping the real thing. I used a rasp to shape the wood. Rasps are a brilliant shaping tool, it is easy to target high spots, and depending on the tooth size they can be used to remove material quickly or slowly. Much of the work I do at Robinson House Studio is curved and sculptural, so rasps play a big part in the making process. Once I was happy with the shape I sanded the olive wood to 180 grit.



Cut out the waste on a bandsaw



Two halves of the handle



Use a rasp to shape the timber

Gluing

To glue the handle to the knife I used epoxy resin. Epoxy is strong, reliable and forms an excellent bond. To ensure the wood would adhere to the metal, I scratched the blade handle with a Stanley knife to provide a key for the glue. Although air dried the olive wood is still quite an oily timber so to help with adhesion I wiped the gluing surfaces over with white spirit. The Loveless bolts are designed in such a way that when they fit snugly in the holes, you can screw them together and they act like a clamp. I found that the blade was not

entirely flat so I used a few clamps just for good measure. You could of course shape your blanks to fit with a scraper or carefully hollow out the centres to ensure a good join around the edges.

Paint the wood, holes and bolts with epoxy – in this case, more is better to ensure there are no voids – insert the bolts, and clamp it all together, taking care that none of the metal blade handle is proud of the wood. You want excess wood all the way around so you can shape it to the metal. It is much harder the other way around.



Use a Stanley blade to scratch the metal and provide a key for the glue



Cut the bolts almost flush with a hack saw

Finishing

Once the glue has gone off, you are ready for final shaping, but the bolts need to be filed down flush first. You can use a Dremel, die grinder or any other sort of grinding tool to remove most of the waste. I cut off as much as I dared with a hacksaw before filing the bolts flush with the wood. Use the rasp again to quickly remove the excess wood and define the shape of the handle, taking care not to scratch the metal. Once your wooden handle halves are almost flush you can sand away the scratches left by the rasp. I mentioned earlier to sand the wood to 180 grit before gluing. The reason being that you can now use 240 grit to bring the wood flush with the metal. Wood

is obviously much softer than metal and 180 grit is too aggressive at this point to risk sanding the wood lower than the metal. You may not be able to see if the two are not flush but you will definitely be able to feel it. To remove all scratches made by the rasp and 180 grit go up through the grits to achieve the finish you desire. I took it up to 1,000 grit before applying the oil. Osmo oil is a popular finish at Robinson House Studio, it's a brilliant product, easy to use and suitable for a lot of different applications. However, on an object that will be handled regularly it can wear easily and require refinishing. I opted instead for a finish called Tru-Oil, an oil developed specifically for



File the brass bolts flush with the wood



The finished product

gun stocks. With any finish, I like to 'de-nib' between coats with 1,000 grit sandpaper to remove any dust particles that may have stuck to it. De-nibbing is a light rub-down, not a vigorous sanding. I applied 5-6 coats of Tru-Oil before I was satisfied. Although I started out by saying the knife held little attraction as far as being a useful tool in the workshop I'm actually finding more and more excuses to use it. It's a lovely tool to own and one that I have learned skills from making. *F&C*

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Replica patch box

This patch box is an 18th-century design, made iconic by *Woodwright Shop* show host, Roy Underhill. The box features a catch arrangement to keep your mutton tallow safe. The two-piece lid only opens in the correct sequence, the top layer pivoting on the brass screw and the second layer sliding back from an ebony (*Diospyros spp.*) butterfly holding it in place.

To make the patch box, take a piece of stock 40mm square by 100mm long and mark the depth of the two lids on both sides of the stock with a marking gauge. Next, locate the position of the screw and layout the front edge of the top lid with

dividers, pivoting on the position of the screw. The front edge of the top lid is at an angle to the edge of the patch box and to have a satisfying click as it rotates, the radius set by the dividers should intersect the leading edge of the top lid at the right hand side of the box and again at one third of the width in from the right side of the box. Make the rip cut to separate the top lid from the main body and then cross-cut the front edge along the angle previously set by your dividers. The front edge should have a heavy undercut.

The second lid is a straight rip cut, so separate it from the rest of the stock and

remove the waste for the compartment. I used a spoon bit in a 10in brace for this. The lids are held in place by a single brass screw. Clamp the lids to the compartment and drill a hole for the screw. The screw hole in the lower lid should be expanded into a slot so it can slide back and forth. The final element of the catch is the butterfly. Cut it with a fine saw and inlay it into the front of the patch box so one half of the butterfly is in the compartment and the other is in the lower lid.

Finish the patch box with your choice of finish and then fill it with tallow.

Kieran Binnie



The two lids work together to keep the box firmly closed



A spoon bit was used to create a well with rounded corners



A beeswax and polissoir finish



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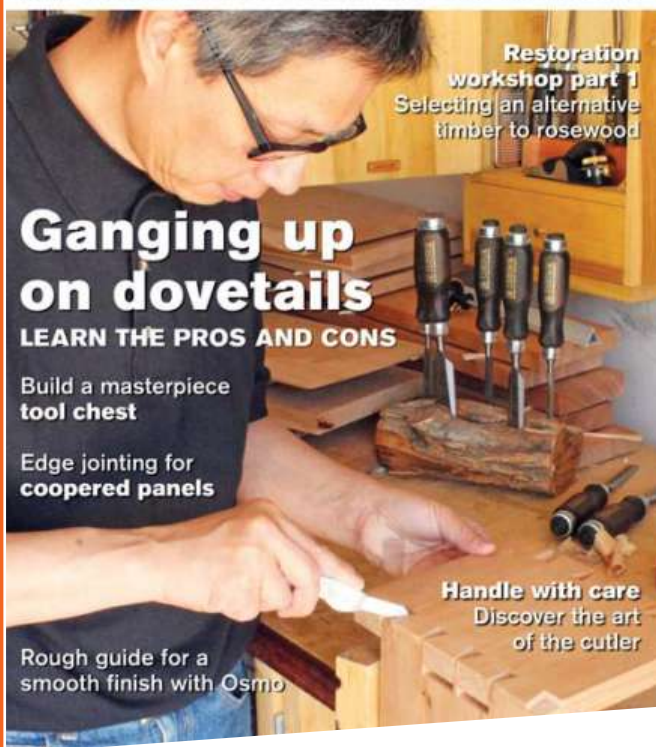


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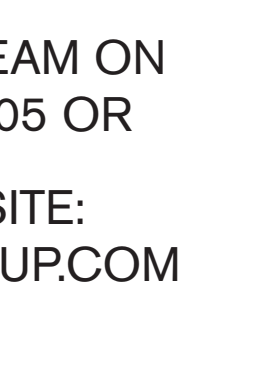
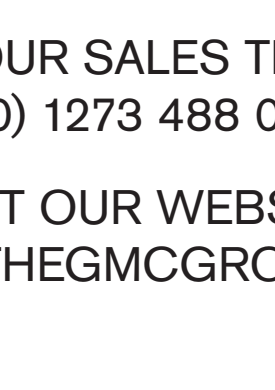
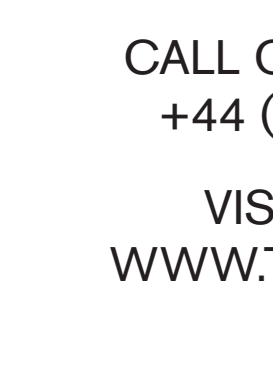
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Handmade coopered keepsake box

Curves add interest to a common square piece. Coopering is a simple way to add curves as Charles Mak demonstrates in this dovetailed cherry box

Most of my older work was flat and straight, thanks to Norm Abram whose *New Yankee Workshop* show first aroused my interest in woodworking. The pieces showcased there or seen in the magazines I later subscribed to – cabinets, tables and boxes – were by and large flat and square. With the few curved projects I did run across, I was discouraged by the steam bending or laminating process.

That was until I heard about the coopering technique – essential for making buckets and barrels – first using machines, and later experimenting by hand.

Coopering by hand – with the right tools – is simpler than you might think. I will begin with the design of the box and then walk you through step-by-step the construction of a coopered lid and the final cherry (*Prunus spp.*) keepsake box.



Supplier details

Binding tape – 25U03.30

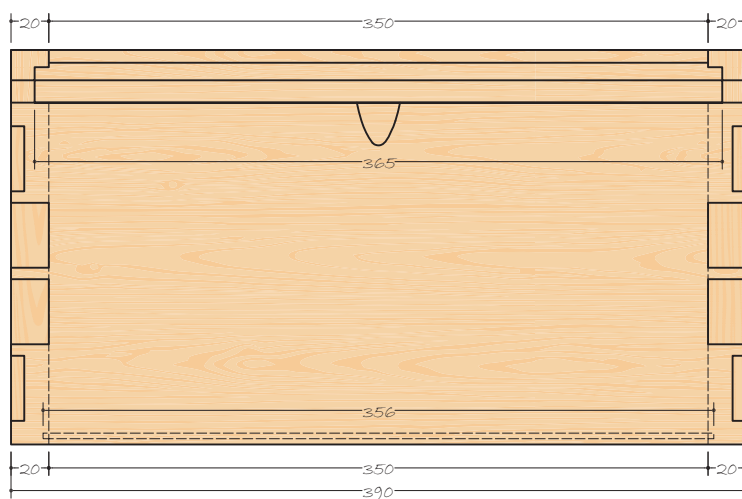
Hidden hinge pin set – 05H02.01

Ball chain – 00G40.01

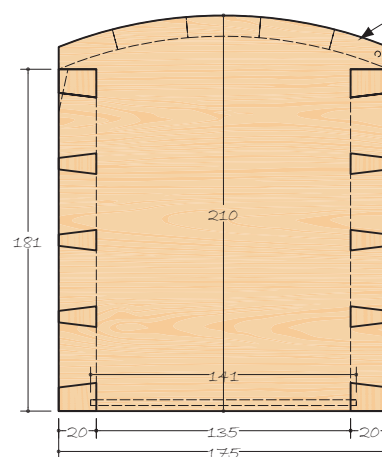
End anchors – 00G42.15

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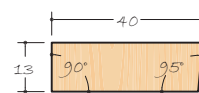
FRONT ELEVATION
Scale: 1 to 4



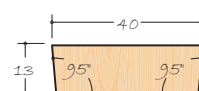
END ELEVATION
Scale: 1 to 4

Finished lid
thickness 12mm

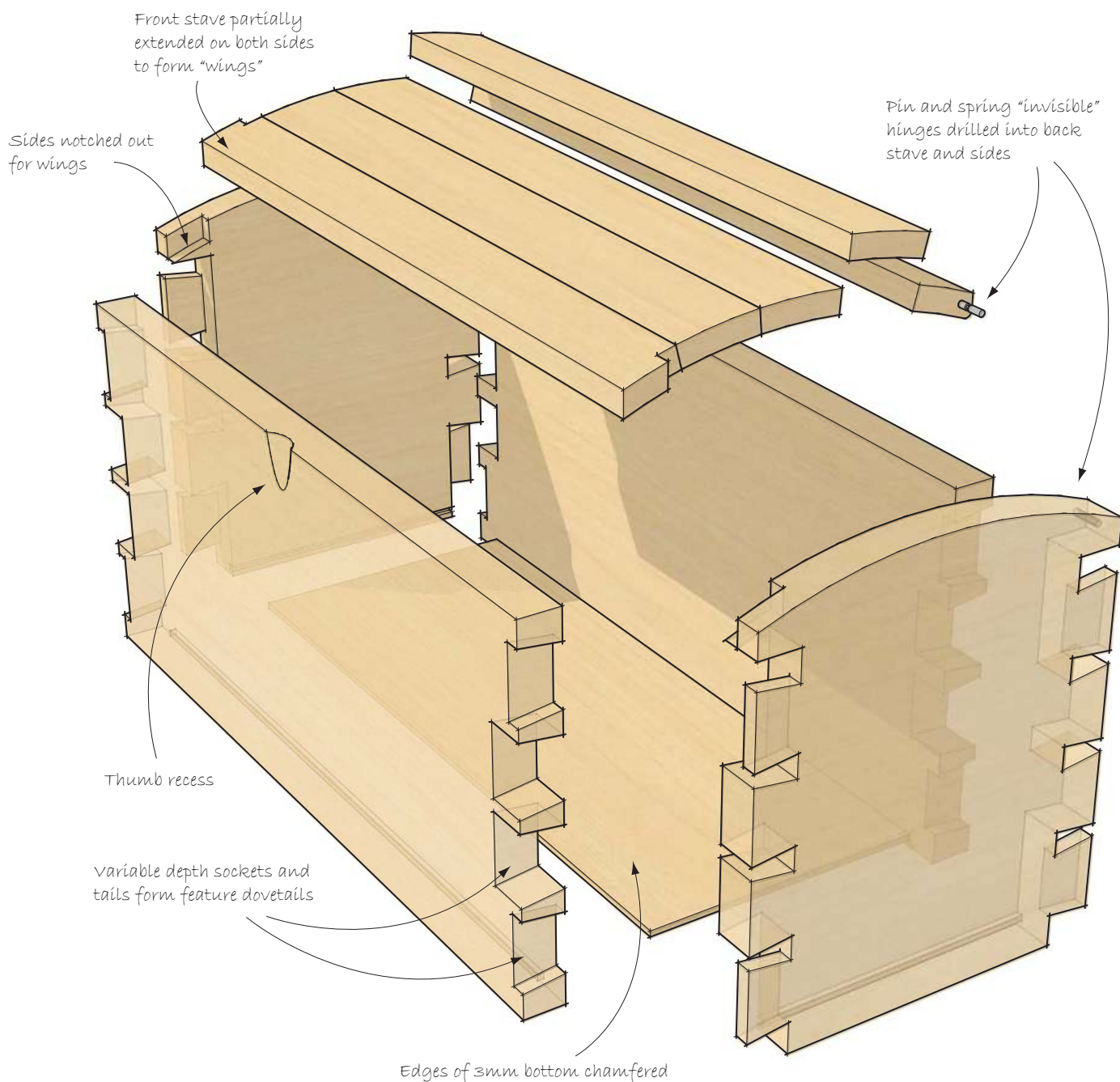
STAVE SECTIONS
Scale: 1 to 2



END STAVE



MIDDLE STAVE



Lid before box

For this project, we could make it in the usual way: build the box first and then make the curved panel to fit the carcass. But I prefer to cut the coopered lid first and build a case around it, freeing me from having to follow the exact dimensions of a fixed casework.

I began with some sketches to visualise the coopered lid and the overall form of the box. A few days later, I worked out more details such as the angle for the bevelled edged pieces (staves) and the joinery pattern. In the final design, I also included my wife's suggestion and made the lid look not so plainly rectangular.

In coopering, we have choices to make about the staves: the number of staves, their widths and their bevel angles. In the sidebar, you'll find more information to guide your choices.

Ripping and marking

After ripping the stave pieces to identical width from the same board, I numbered the pieces and indicated the bevel marks on the ends, leaving the outside edge of the two outside pieces square. Marking your stock reduces errors, but it is always a good idea to double-check your markings before you follow them.



I spotted and fixed the marking mistakes on the outside pieces before I began the bevelling

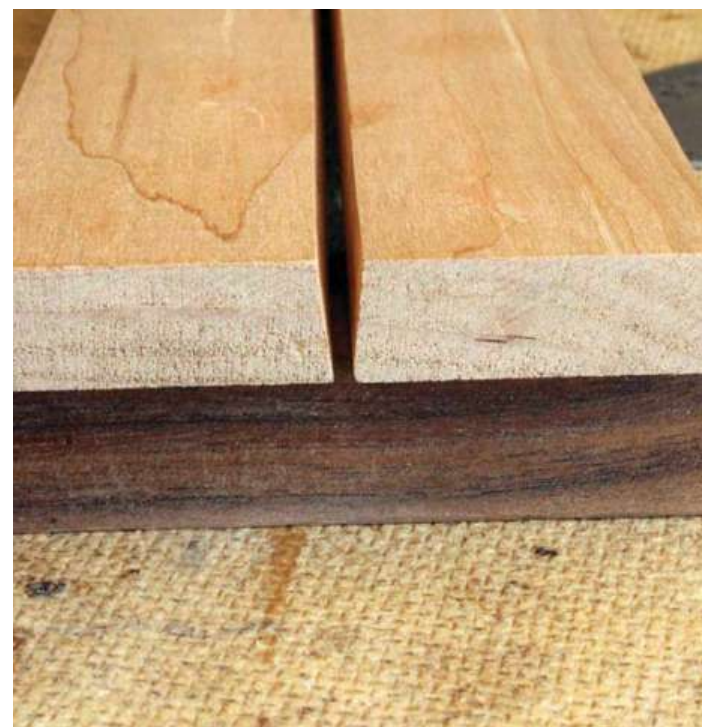
Bevelling by hand

You can bevel each piece using a handplane in the same manner you cut a chamfer, but that's slow and tedious. The skew rebate plane – used with an angled fence – is my secret weapon for fast, repetitive and accurate bevelling. I stood the piece up to bevel its edge with the fence riding against the face of the stock. I bevelled both edges for all the staves except the two outside pieces.



I made a 5° angle fence and made a few test cuts to verify the bevel angle on the scrap

James Krenov had a simple rule on gluing for woodworkers: "No two pieces should be forced together against their wishes: you should be able to press them tight together with your hands before gluing." In practice, I closely examined the bevels and fixed any bevel that might pose a glue-up problem so that was why I kept the rebate plane's fence and settings intact until at least after the dry-run.



The bevel on the right piece needed another pass or two with the plane

Understanding the staves

- In general, you can get a smoother curve by using more staves, but you'll also have more bevels to cut and more joints to handle.
- To keep a grain pattern more intact, use fewer staves and make fewer rip cuts.
- You can cut all the staves to the same width, giving a consistent curve like the arc of a circle, or, as James Krenov preferred, vary the widths, like going wider for the middle pairs to produce asymmetrical curves. For tight curves, narrow staves work better.
- The bevel angle determines the curve of the surface: the higher the angle, the deeper the curved surface. A mildly curved piece and an extremely curved surface may require different methods for clamping.
- You can vary the bevel angles among the staves, such as using a lower angle for the middle pairs than the rest to achieve a flatter top.
- Fairing a coopered surface will remove wood. Start with a stock thicker than the final thickness. Also, the fewer the staves you use, the thicker the staves should be.

Gluing up the curved lid

Gluing curved pieces together is the trickiest part of a coopered panel before shaping. Some do it in one go with a clamping form. I prefer not to handle so many slippery glue joints all at once, nor – for small or one-time jobs – do I want to use a clamping form, which takes time to make.

My glue-up strategy takes a little longer

but is simple, foolproof and the least stressful: I broke down the single gluing job and glued up the staves in pairs. After the pairs cured, I joined all the mating pairs together, using curved cauls, clamps and strips of tape. I went with a binding tape commonly used by guitar makers that has greater strength

and stretchiness than masking tape.

You can use any common wood glue, but if you aren't familiar with gluing up curved shapes or need an insurance, try Old Brown Glue or any liquid hide glue. It allows you to reverse the glue-up with heat and moisture, and fix any unforeseen problem.



Rubber bands work well as coopering clamps for staves that are not too wide



The strong binding tape peels off without leaving any residue behind

Shaping the concave

A coopered lid has two curved surfaces – the convex and the concave, which means we often, but not always, have two surfaces to fair. For example, furniture maker Garrett Hack sometimes chooses to leave the inside (concave) face of a door faceted to show the door construction. The two different curves will require different tools to remove the

facets to form a smooth curvature.

Let's start with the concave side, which, as you will see, is the easier of the two to fair.

Since I have a round moulding plane, I used it to clean up the glue lines with some quick light passes, but a curved scraper is all that you'll need. I placed the lid with its concave face up on a liner against a

planing stop and used a gooseneck scraper to remove the facets. To check the progress, you can bend and sight a flexible steel rule against the curvature, or simply run your fingers across the surface to feel for an even concave face. If you scrape well, you may only need light hand sanding for finishing purposes.



I set the moulding plane for fine cuts to clean up the glue joint



Spacers supported the lid on the edges while the liner kept everything from skidding around

Shaping the convex

Unless you are working with a large piece, the standard block plane is the tool of choice for fairing the convex (top) face. It allows you to plane with one hand while using the other hand to feel the surface to get constant and instant feedback on the progress.

I shaped the convex surface with three types of cuts. I started with circular slicing cuts to remove the high spots along the glue lines. Why slicing cuts and not cuts across-the-grain as some woodworkers do? With cross-cuts, you run the risk of causing tear-out on the edges

of the staves if they are not glued flush. Slicing cuts keep that risk to a minimum.

After the high and uneven spots were removed, I worked with cross-cuts and at a diagonal. Finally, I planed the surface with long straight strokes to remove any slight cross-cut marks and unevenness. For all fairing strokes, a keen cutting edge and very light cuts are paramount. This brings me to the point that many starting hand-tool users miss: when you hone your sharpening skills well, you're also honing your other hand-tool skills.



I placed spacers under the board before I shaped the top with circular slicing cuts

Building the box

As the box was built around the lid, I double-checked the measurements against the finished lid before cutting the parts for the box. The decorative dovetail was inspired by the pattern I saw in the work of Jeremy Coy, an American furniture maker. I marked out the joints as usual with a pair of dividers, a dovetail marker and a marking gauge. And, as explained in my dovetail article in *F&C 215*, I set the marking gauge shy of the thickness of the stock.

Tails first or pins first? For the usual dovetails, it doesn't really matter. But for this one, I preferred to tackle the more complex part of the joinery first, which was making those thin tails. It was a three-step process, beginning with cutting out all the tails – full

and thin ones. Then with a marking gauge, I marked the desired thickness on the end grain of the thin tail and removed some of the waste with a Forstner bit. In the final step, I pared away the remaining waste to the line.

I learned a trick of mastering the plumb cuts which are critical for the pins from Duncan Robertson, a local woodworker and teacher. I set my pin board perpendicular in the vice using a level. With a loose grip, the weight of the saw will intensify the gravitational pull, and help you make vertical cuts.

With the pin board in the vice, I first cut out the tall pins and then partially assembled the joint to trace the thin tails to the pin

board. I used the marking gauge still with the thin tail's thickness setting to mark out the depth of cut for the shorter pins. After cutting out the short pins, I went ahead with the dry-fitting.

I disassembled the case and used a plough plane to make through grooves on the sides for the bottom. For the stopped grooves on the front and back pieces, I chiselled out the waste and cleaned up the grooves with a router plane.

I cut out the curved edges on the side pieces, matching the lid's curve profiles, and then cleaned up the end grain using a spokeshave. Before I did another dry-run, this time with the bottom in place, I slightly chamfered the edge of the bottom piece.



I drilled out the waste in several passes to avoid splintering



The shop-made torpedo level with a plumb vial is an essential part of my dovetailing kit



With the tail and pin boards partially assembled, I marked out the pins for the thin tails



I drilled two stopped holes for the groove to guide the chiselling work

Topping the box

I trimmed the lid and cut out the mating notches on the sides for the wings. I laid the lid on the box to mark and plane the lid's front and back edges flush to the case. I bought a pair of spring-loaded hidden pin hinges for this box. I drilled all the holes and

rounded over the back edge according to the hinge installation instructions. However, I did not cut the slots on the lid as indicated in the instructions.

I find the slots both distracting and against the very idea of the invisibility of the hidden

hinges. Instead, I made a slight indentation to show the centreline of the hinge where the slot should be cut if so required in the future to remove the hinge. The final touch for this box is to carve a thumb cavity on the front for lifting the lid.



I trimmed the edges and cut out the decorative wings



A scrap board with a predrilled hole acted as a guide for precision drilling



The spring-loaded pin hinges make a strong and invisible pivot for the lid



I tackled the reverse grain spot in the recess with a card scraper

Assembly and finishing

I assembled and glued-up the box, without the lid installed. After the glue cured, I planed everything flush, but left a few scribed lines behind, the signature of hand-cut joinery.

I've always loved the rich colour that natural sun tanning and coats of boiled linseed oil give to cherry projects. After the oil finish dried, I installed the hinges and the lid chain. There was one last task I almost forgot to complete before the presentation: signing and dating the piece, followed by a good coat of paste wax. *F&C*

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Krenov, James, *The Fine Art of Cabinetmaking*. Linden Publishing. 2007. Pp. 119–128

Mak, Charles, 'Cutting dovetails – proud, flush or shy?' *F&C* 215. February 2014. Pp. 37–39



The foolproof gluing method is dry clamping and dry fitting a few times – not just once – before you open the glue bottle

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Festool VECTURO OS 400 Multifunction Tool Set

Geoffrey Laycock tests the latest multi-tool from Festool

Not that long ago oscillating tools or multi-tools were regarded as a luxury and limited in application. That is changing and extended applications, improvements to blade design, blade holding mechanisms and user understanding all add up to a rapidly expanding range of tools. When Festool announced the release of the VECTURO it was going to be special as they have a philosophy of only introducing a new tool if they can add their own unique features. Wanting to replace an old multi-tool and being a Festool fan made for an easy decision and the full 'Set' kit was bought. So does it live up to expectations after three months' use?

What's in the case

The VECTURO arrives in the usual Systainer case and that does not disappoint. A blow-moulded interior holds the tool – with any blade fitted – and there are locations for the precision plunge guide, depth stop with sliding shoe and depth stop. There is also a storage area for the larger circular blades but the lid for this is a flimsy plastic and a disappointment. Only three blades are supplied: a circular 100mm wood cut blade, a 35mm width precision plunge wood cut and a universal bi-metal 42mm wide blade. The Systainer case also has a lidded storage tray on the top but as this is a standard design adapted for the Vecturo it doesn't really provide organised blade storage, just the equivalent of putting all your blades in several small trays to carry around.

The tool itself oozes quality in the usual Festool colours, with separate plug-it cable: the quality of castings, mouldings and assembly is superb. Sadly, one feature appearing on just about everything these days is missing: there is no LED light so working in the back of that dark cupboard will still remain a challenge. Some other tools have a strobe LED and this would be extra welcome with an oscillating blade tool such as this. I found using the precision plunge guide that lighting would be a significant benefit; a strobe function to 'stop' the blade would be a huge advantage. Strange that Festool have this on their jigsaws but have not carried the design over. Also missing is any method of dust extraction and as there is no blower function that does mean dust build-up can obscure the cutting zone, plus the further problem of dust remaining within the saw cut; both strange omissions featuring on some other examples.



With the release lever open, the arbor is removed to change blades. The tool sits on a stable tripod like this but not once the lever is closed



A high-quality blow-moulded case interior but the clear plastic cover over the circular blade compartment – bottom left – is not likely to last very long



Plunge cutting into thin material was easy and I was able to cut a quite accurate straight line. A strobe light to 'stop' the blade would have made the end of the cut more accurate

Blades

Blade holding is the Fein SuperCut design, using a single lever to release and hold the blade using a removable arbor. The gearbox and blade clamping mechanism are made by Fein so the quality is beyond doubt and the good news is this allows Fein SuperCut blades to be used. Fein make the blades for Festool but the Fein brand is cheaper! It is slightly fiddly to replace the blade along with the arbor but this is helped by two tiny lugs on the back of the body that form a tripod support. With the blade release lever fully open, the machine sits happily on its back to help you. It would be nice if you could also rest it in this stable position during use but you can't as the closed blade

release lever means the lugs no longer touch the surface: a simple positive feature missed as an opportunity. Compared with older tools using a screw to hold the blade this clamping mechanism is streets ahead, however the recently released DeWalt has a truly quick-change mechanism only needing a pull of a lever to release the blade: changing blades takes about 10 seconds with no fiddling.

Instruction manual

The instruction manual is the usual high-quality multi-language booklet you would expect but it does suffer the same lack of detail that all Festool manuals

exhibit. There are no hints or tips; no examples of what the tool can be used for – although it does clarify those processes it cannot do – or any guidance on speeds for blade/material combinations. There is a warning note regarding changing blades, potentially hands and fingers being pinched by the spring force of the locking lever. I found if the locking lever is not opened fully – beyond where the blade is released – the lever can snap shut back into the locked position and the bruise on my arm hurt sufficiently that I will not do it again! Some people may have difficulty actually operating the mechanism as it is very strong.

Depth stop and plunge guide

The kit comes with a depth stop, a sliding shoe that also acts as a depth stop and a precision plunge guide. The latter is clever in having a magnet to ensure the blade stays against the guide base. What does seem strange is that depth stop and plunge guide cannot be used together. In one job where I wanted to make an accurate limited depth plunge cut I had to improvise a depth stop taped to the side of the plunge guide. All three attach to the tool in a clever way that allows them to rotate to match blade position and attachment position to that orientation if you want to use the tool in 30° increments.

The sliding shoe is used with the supplied

circular blade which has a movable semi-circular plastic guide to cover the teeth not in use. At full depth of cut this just allowed cutting of standard 18mm thick. As I imagine the most natural home for tools such as this to be primarily kitchen and shop fitters, that may be rather limiting. Unfortunately at anything more than a few millimetres depth of cut the front of the sliding shoe is too short to usefully engage the workpiece when starting a cut. It needs to be at least 20-40mm longer.

It seems rather miserly that only one

attaching ring is supplied for the depth stop and sliding shoe, necessitating a swap over between the two, yet the storage in the Systainer box caters for each to have one. The precision plunge guide has its own permanent ring.



The Set option provides the three attachments and three blades; the Plus option includes just one universal blade



The sliding shoe and depth stop accessories. The orientation of all three attachments is easily changed by depressing the large green button on the gearbox, allowing the attachment to rotate. Depth adjustment is also very easy



I did also try using tape on the blade but this was too blurred to be accurate. It would work with a strobe light ➤

► Using the tool

In use the tool is tactile, nicely balanced and relatively thin so easy to grip. The rotary speed control is at the rear end but no variable speed control is available from the sliding on/off switch. The switch is not reset by electrical disconnection – not NVR – so could be left on by mistake. Of more concern is losing grip when in use and the tool continuing to run as you are unable to quickly operate the sliding switch. Located centrally on the back it can be operated by either thumb using the most common grip position but a squeeze type trigger would seem more preferable, especially if this had a soft start and possibly variable speed function. I found when making vertical plunge cuts I moved my controlling hand away from the switch position so there was no quick way to switch off. A squeeze trigger on the underside of the 'handle' part of the tool would avoid this issue. The quite narrow body is easy to grip, though occasionally that grip obscured the motor vents and this is highlighted in the manual as something to avoid.

Using the circular blade for cutting the two sides of small housings in an oak (*Quercus robur*) worktop highlighted the typical problem of teeth with no set. Trying various

tool speeds and feed pressure always resulted in burning as there is nothing to clear the dust away. The sliding shoe guide works for this type of cutting and acts as a depth stop but the lack of leading edge projection is a significant issue. The depth stop works as it should and so does the precision plunge guide. I forgot to mention earlier there are no sanding attachments available and the Festool manual specifically says it must not be so used.



Using the same guide on thin material shows it can work well – it just needs to be longer



Using the sliding shoe guide at maximum depth of cut is not easy if starting at an edge – it really does need to be longer

“Oscillating tools are essentially generators of vibration and hand/arm vibration syndrome is a serious health condition that can result.”

Safe use

If a certain online encyclopaedia is to be believed, the patent for oscillating saws dates back to 1945 in the US for a plaster cast saw. Fein produced their first oscillating plaster cast saw in 1967. Cast saws have been in medical use worldwide for decades and due to the small angle of movement of the blade a hard resisting material will be cut but when the blade reaches skin there is sufficient 'give' in the skin that it simply moves back and forth with the saw blade teeth hence safe, quick cutting of plaster and fibreglass casts. They are not totally safe with up to 1% of cast cutting resulting in patient injury, usually from burns due to the friction heat of cutting. Eventually someone – Fein – thought of using the concept on other materials. The angle of oscillation is key to the lack of skin injury: you must not assume your wood and metal cutting oscillating saw cannot cause injury to your skin – it could!

Ergonomics

As a Chartered Ergonomist and Human Factors Specialist I'm always intrigued when a manufacturer claims a description such as 'Ergonomic: slimline housing with rubber coated handle rests perfectly in the hand'. The grip area of the VECTURO is nice to use

in some orientations but overall the shape and switch position could be better. There are many definitions of ergonomics – one of my favourites is also one of the shortest – design for usability.

Vibration

Oscillating tools are essentially generators of vibration and hand/arm vibration syndrome is a serious health condition that can result. The VECTURO does control vibration transmitted to the hand better than some others and taking the vibration level for the worst-case blade the daily time of use before reaching the Exposure Action Value is 17 minutes: in a work situation this level triggers a requirement for health surveillance! The daily time to reach the Exposure Limit Value – the level that must not be exceeded – is 70 minutes: in a work situation this would be the absolute maximum daily use. Essentially anything more than around 17 minutes daily use can be causing damage which is cumulative and non-reversible. A simple guide is, 'do you have any tingling sensation in the hands during or after use?' If yes, you are potentially causing damage to nerves and blood vessels – don't use for that long on a daily basis. *F&C*

F&C verdict

So what is the overall conclusion? DeWalt has recently released the DWE315KT kit and it features a true quick blade change, LED light, squeeze trigger variable speed control, extraction, depth stop, sanding and rasping attachments, six blades and a T-Stack case all for less than two-fifths of the cost of the VECTURO. Your choice on what meets your needs.

Pros

- Beautifully made
- The usual brilliant Systainer case
- Some clever design features including the precision plunge guide
- The convenient Plug-It cable

Cons

- Very costly
- No extraction
- No LED lighting
- Only three blades supplied
- Cannot be used for sanding, rasping, grout removal or with abrasive blades
- Poorly thought through but still useful attachments
- Mousetrap blade release lever

Prices

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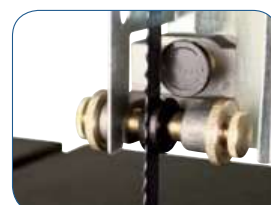
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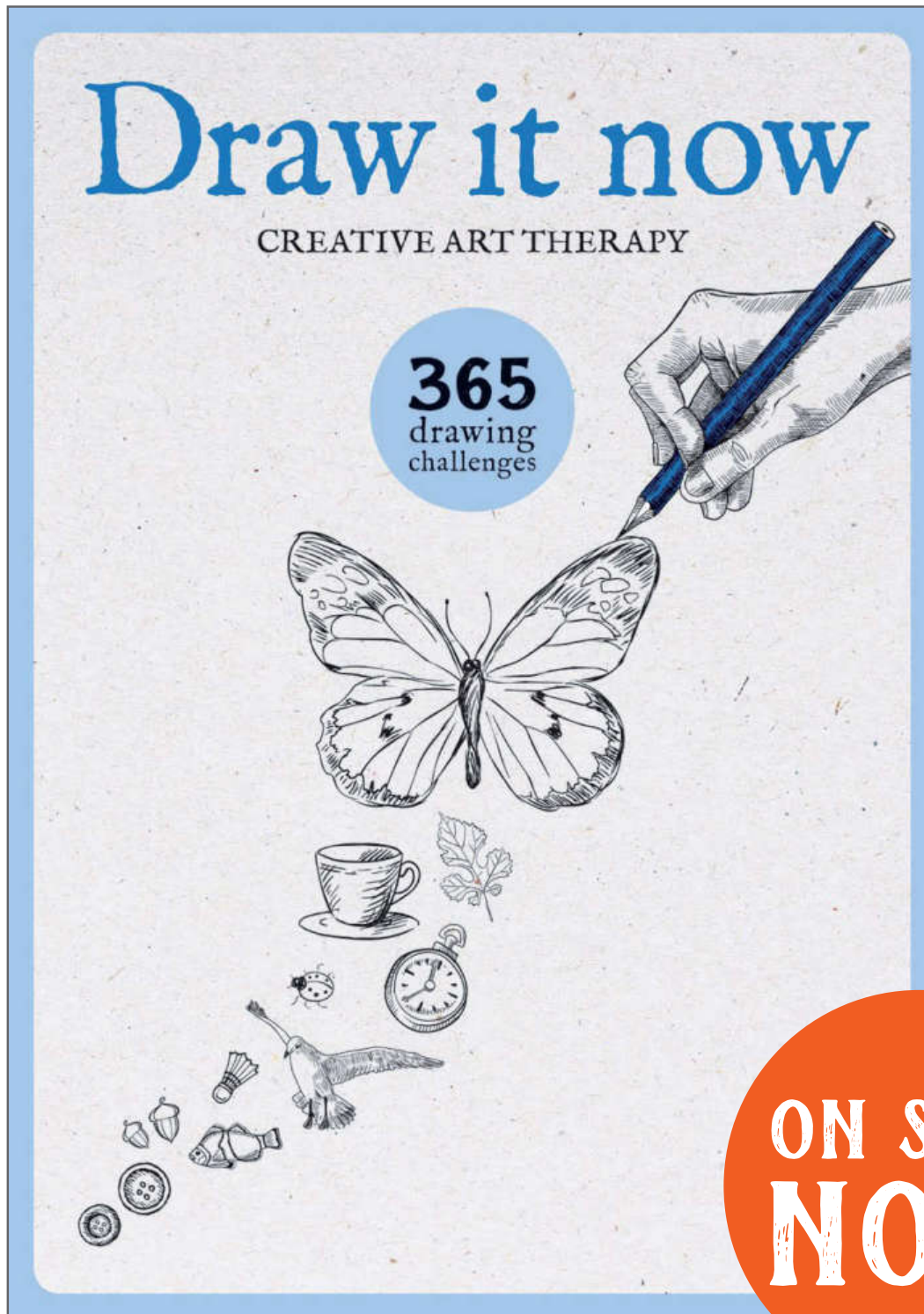
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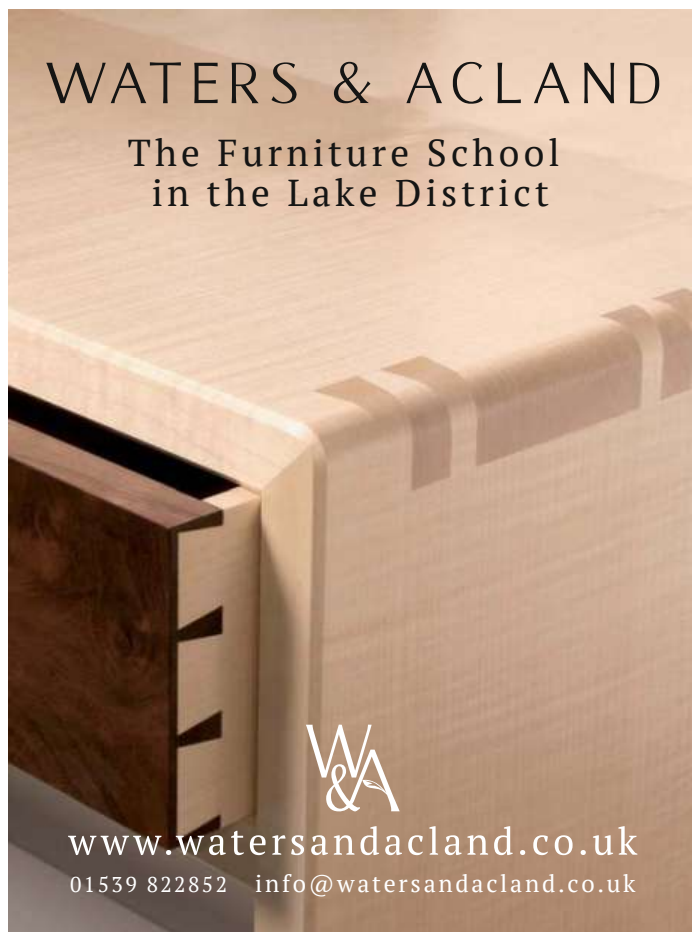


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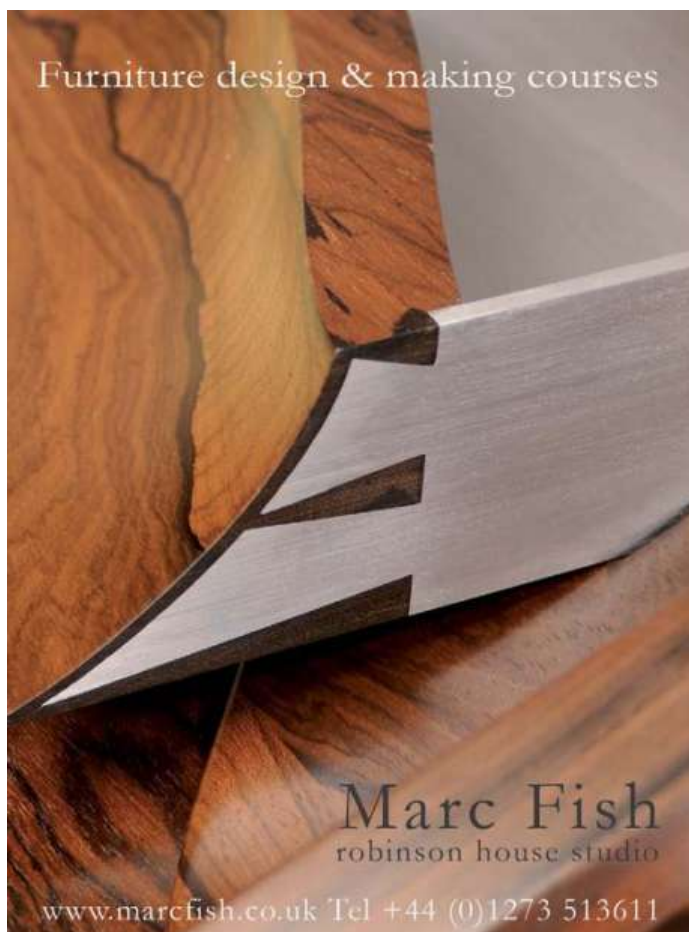
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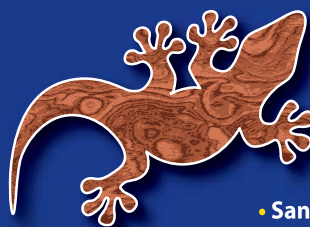
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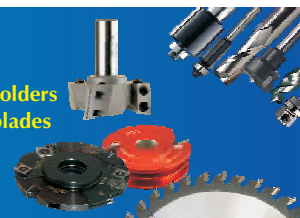
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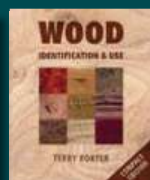
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UNDER THE HAMMER:

The Augsburg 17th-century ebony cabinet

We take a look at one of the lots from Bonhams' recent 'Europe – Defining Style' auction

£15,000-25,000



PHOTOGRAPH COURTESY OF BONHAMS

This 17th-century table cabinet recently went under the hammer at Bonhams' 'Europe – Defining Style' auction, which featured fine European furniture, works of art, sculpture and silver and gold boxes. The Augsburg table cabinet has a triumphal-arch facade and features ripple-moulded ebony (*Diospyros spp.*), white metal and scarlet tortoiseshell. The mounts are in the manner of German goldsmith, Wenzel Jamnitzer.

The facade is surmounted by a broken arch architectural pediment, on which are seated figures representing Night and Day, flanked by putti depicting The Four Seasons. There are four short drawers to each side and one long drawer applied with chased mounts and flanked by Corinthian columns. Its mirrored tabernacle compartment reveals a triumphal arched niche with a

bas-relief of the Triumph of Venus derived from the Judgement of Paris, while the fretted medallion bas-relief of the base appears to depict a scene from the Trojan wars. The triumph of Ceres, goddess of Agriculture, with the laying aside of arms, is celebrated in one of the other drawer medallions. The pierced three-quarter balustraded gallery with cast urn and foliate finials is above a sliding rectangular sprung top, which encloses a secret compartment, above a central recessed mirrored niche with turned pilasters and a central cast mount of Venus and Cupid on a chequered ebony and ivory floor. The cabinet rests on ball feet and measures 60cm wide, 27cm deep and 62cm high.

A comparable cabinet previously in the possession of Archduke Ferdinand II (1529–1595) in ebony and silver is now

in the collection of the Kunsthistorisches Museum in Vienna.

Wenzel Jamnitzer

Wenzel Jamnitzer (1507/8–85) was one of the most well known and accomplished goldsmiths in 16th-century Europe. His Nuremberg workshop produced numerous objects including silver caskets and mounts. He was employed as a court goldsmith to several Holy Roman Emperors, including Charles V, Ferdinand I, Maximilian II and Rudolf II. He made Renaissance-style vases and jewellery boxes from precious metals, which incorporated gemstones, shells, coral and even small birds' eggs. He was also an artist, printmaker, inventor and coin cutter. Many of his works were melted down during the Thirty Years' War but surviving examples can be seen at the Louvre and the Victoria and Albert Museum. *F&C*



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